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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

JANUARY, 1967

VOLUME 64, NUMBER 1

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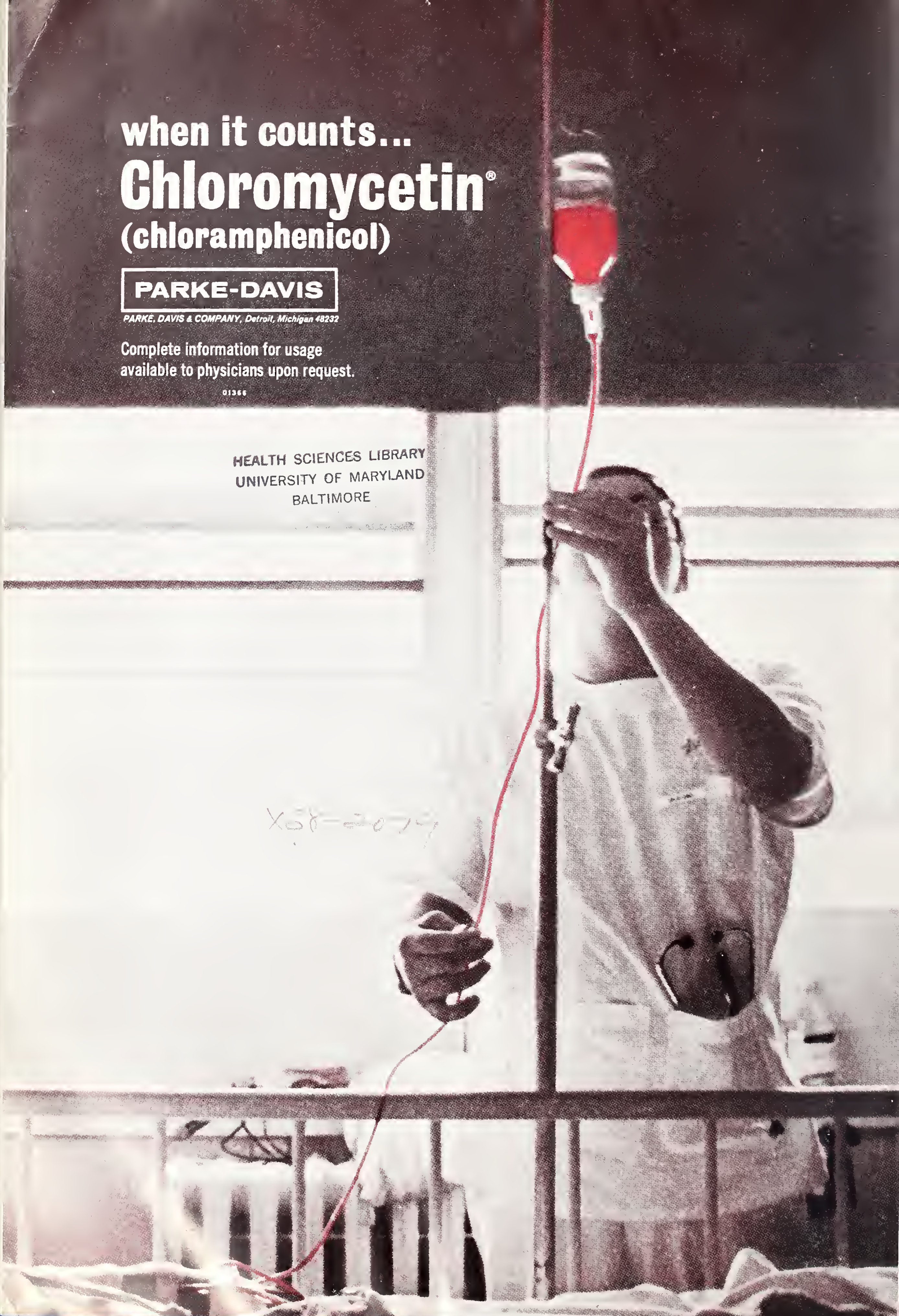

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Missouri Medicine

THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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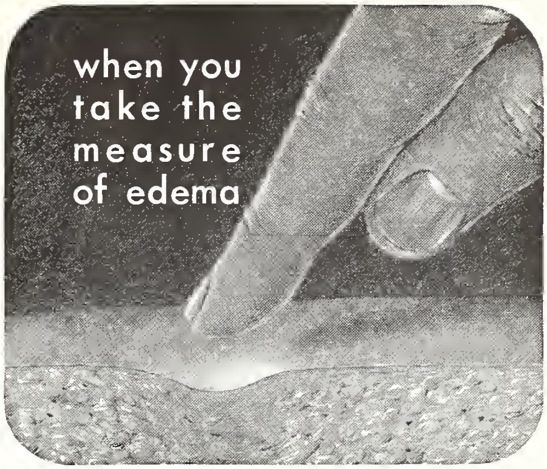

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WARNINGS: Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

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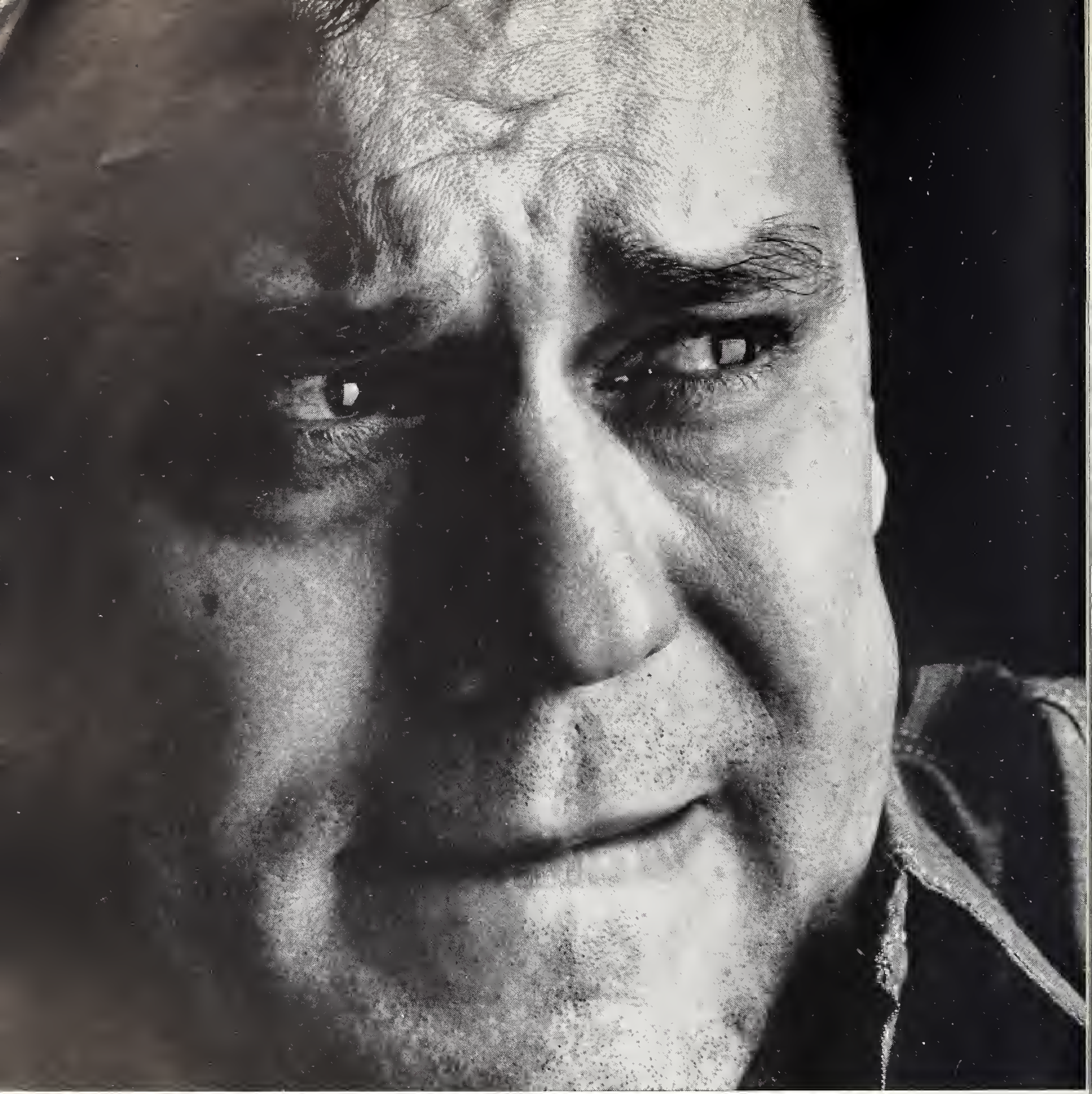

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AMA Approves 'Family Practice' Concept

The American Medical Association has endorsed the idea of a new medical specialty of "Family Practice" and has authorized its Council on Medical Education to move forward with plans for implementing the idea. The AMA House of Delegates approved the action during its 1966 Clinical Session, November 28-30, in Las Vegas. An *ad hoc* committee had been studying the subject of Education for Family Practice for nearly two years. The committee's final report was described as "a document of major importance on a subject of vital significance to the health care of the American public."

The Missouri State Medical Association was fully represented during the AMA meeting. Delegates Durward G. Hall, J. Loren Washburn, Arthur W. Neilson and Richard H. Kiene served in their official capacities. MSMA President Byron M. Stuart, President-Elect Hector W. Benoit, Jr., Secretary John I. Matthews and Speaker Stanley S. Peterson were on hand to assist the Delegates and to represent the Association in committee hearings and informal gatherings.

For Doctor Hall, the Session brought to a close nearly a dozen years of service as a Missouri Delegate to the AMA. In a farewell statement to the House, the Springfield physician-Congressman declared that although he would no longer be an official member of the body, he would always be available to assist or counsel in the affairs of organized medicine. Doctor Hall said that the increasing pressures of Congressional activity caused him to decide not to seek re-election as a Missouri Delegate. He recently won re-election to another term in Congress from Missouri's 7th District.

MSMA sponsored and introduced one of the 64 resolutions which were considered during the Las Vegas meeting. The Missouri resolution relates to protecting the established activities of the U. S. Public Health Service. The final paragraph reads: "*Resolved,* That in matters pertaining to the traditional responsibilities of the U. S. Public Health Service, the medical and related scientific decisions should remain within the purview and jurisdiction of those who are trained medical officers."

The proposal was approved by the House without opposition.

The AMA took note of the Report of the Citizens Commission on Graduate Medical Education, the so-called "Millis Report," which has been so widely reported and discussed in recent weeks. Individual physicians and medical organizations were urged to study the Report, evaluate it and present comments or critiques to the AMA Board of Trustees prior to the 1967 Annual Session.

The AMA adopted a new statement of policy on chiropractic, declaring that the practice "is an unscientific cult whose practitioners lack the necessary training and background to diagnose and treat human disease. Chiropractic constitutes a hazard to rational health care in the United States. . . ."

Medicine's position on government health programs generated considerable interest and debate. House members agreed that AMA should try to get the Social Security Act amended to permit direct payment of the physician under Title XIX of Public Law 89-97. Title XVIII already offers the option of direct payment or assignment of claim.

After lengthy discussion, it was agreed that definitions of "usual, customary, reasonable and prevailing" fees could not be drawn on a national basis. The responsibility for defining these terms will be left to individual states or areas within states.

In another proposed amendment to the medicare law, the AMA will work to eliminate the requirement for special forms which certify or recertify the need for hospitalization of medicare beneficiaries. The Association went on record again in favor of freedom of choice for the physician in selection of generic or brand name drugs under government programs.

In other actions, the House:

1. Authorized the Judicial Council to hear appeals of cases in which individual physicians claim they have been denied membership in local or state medical organizations because of their "color, creed, race, religion or ethnic origin."

2. Encouraged local and state medical organizations to establish review committees which are charged with investigating alleged abuses in medical charges, hospital use and health care services.

3. Strongly opposed the "dual fee" concept

and declared that payment of professional medical service, whether by government or private third-party payor, should be based on "usual, reasonable or customary fee for services" of the physician involved, regardless of his type of practice.

4. Suggested that state medical associations seek state legislation providing legal immunity for the official acts of physicians serving as members of utilization review committees.

5. Reaffirmed its earlier statement of principle that "every ethical licensed doctor of medicine who needs and desires them should have staff privileges, commensurate with his training and skill, in at least one accredited community hospital."

6. Recommended that every hospital should have at least one doctor of medicine, appointed or elected by the medical staff from its own members, as a voting member of the hospital's governing board.

7. Approved a position statement covering relations between hospitals, individual physicians and medical staffs; and rescinded Resolution 104, 1966 Annual Convention relating to the same subject.

More detailed stories on the Clinical Session have appeared in recent issues of *The AMA News* and *The Journal of the American Medical Association (JAMA)*. A detailed report of actions by the House of Delegates is on file in the MSMA Executive Office.

Nation's First Detoxification Center in St. Louis

The first alcoholic detoxification center in North America formally went into operation in St. Louis on November 2, 1966. Located at St. Mary's Infirmary, the Detoxification Center of the St. Louis Police Department has 30 beds, associated physical facilities and supportive medical, social, rehabilitative services available to assist persons who are arrested by police on public intoxication charges.

The Center is the outgrowth of an idea by Col. Edward Dowd, President of the Board of Police Commissioners of the City of St. Louis. It is financed in part by a $160,000 grant from the Law Enforcement Assistance Agency of the Department of Justice, and is sponsored by the Police Department and the Social Science Institute of Washington University.

Joseph Kendis, M.D., who serves as medical director of the Center, said that the primary aim of the Center is to rehabilitate those persons who because of alcoholism have slipped beyond all vestige of accepted social norms and to bring them back into society in some productive capacity. He said the Center will offer a physical environment for "drying out," didactic presentations on alcoholism and programs of group therapy. Two social workers will provide counseling and assistance to the patients in finding permanent living quarters and jobs.

Doctor Kendis said that most of the patients probably will come from the "skid row" habitues and "winos" who traditionally have been thrown into police "drunk tanks" until they were sober enough to be hauled before a judge. Under the new program, such persons are picked up by police and a summons is issued just as in the past. If, however, the person volunteers to remain in the Detoxification Center for seven days, the summons is nol-prossed.

Many social agencies in the St. Louis area have expressed interest in the project and have indicated their desire to assist and cooperate. The project may prove to be a model or prototype for similar programs in other parts of the country.

Doctor Kendis is Chairman of the MSMA Committee on Alcoholism and a member of the Governor's Commission on Alcoholism.

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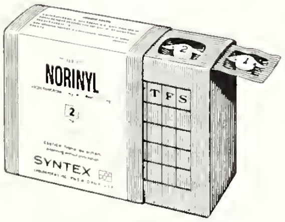

Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: **1.** Council on Drugs. JAMA 187:664 (Feb. 29) 1964 **2.** Bryans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. **3.** Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. **4.** Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. **5.** Hammond, D. O.: Ibid. **6.** Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. **7.** Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. **8.** Kempers, R. D.: GP 29:88 (Jan.) 1964. **9.** Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. **10.** Rudel, H. W., Martinez-Manautou, J., and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. **11.** Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. **12.** Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. **13.** The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. **14.** Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. **15.** Merritt, R. I.: Appl Ther 6:427 (May) 1964. **16.** Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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Special Report

United States Civil Defense Council 15th Annual Conference

CARROLL P. HUNGATE, M.D., ***Kansas City***

THE MAIN THEME of this year's Conference in Louisville, Kentucky on October 23-28 was "National Disasters." The Jackson, Mississippi, tornado; Hurricane Betsy; the Topeka, Kansas, tornado; the Indiana tornado and the Alaskan earthquake were analyzed in detail. Representatives of the local Civil Defense agencies, physicians, hospital administrators, nurses, Red Cross workers, pharmacists and veterinarians reported their respective organizational activities during these disasters.

Problems in communication were the fundamental causes of failure to adequately manage each disaster, whether it was electronic failure or lack of communications between people involved in the many facets of disaster control.

Several panels discussed in depth the reasons for failure to develop some semblance of order out of the confusion of the disaster. The crux of the problem of electronic communication system failure, as reported by experts from Motorola Corp., General Electric Corp. and AT & T, as well as knowledgeable physicians, was that those having general and specialized responsibilities at the time of disaster had not done their homework. Too often the latter had not really sat down with the experts and discussed in detail their specific communication requirements. The experts said, very simply, they can do what we want if we will tell them what we want.

One panel on "Natural Disasters" brought into the discussion the matter of electrical power requirements. It was suggested that hospitals pull their main switch to see if emergency and necessary equipment and machinery were properly tied into their emergency power system in all respects. Lighting is of utmost importance in the management of casualties. It was suggested that good emergency lighting be assured in the pre-planning stage.

Other panels of medical-health personnel discussed "Community Disaster Planning" and "Current Medical-Health Problems" in planning and training for disaster. For example, in one disaster it took the chief nurse of a hospital two hours to get to her hospital through the rubble. She could have arrived in 15 minutes by a circular route. In other words, medical-health personnel should plan beforehand the use of several routes to arrive at their assigned billet, if the usual route is blocked. In the darkness and confusion of a major disaster, they do not think clearly unless proper pre-planning has occurred.

A mixed panel of experts in the field of disaster discussed the following questions relating to natural disasters:

1. We shall approach the subject from the viewpoint that many "bugs" exist in our management of disaster.
2. The same or similar threads of frustration seem to be woven into each of the varied types of disaster—hurricanes, tornadoes, earthquakes, explosions, floods, etc.
3. We shall start at the beginning and continue to the final activity in any given major catastrophe.
4. Aside from radio-TV, is our warning system adequate? Do we have silent areas in the system, so that citizens do not hear the sirens? Should a research project be assigned to the USCD Council to determine the adequacy of siren warnings? Are other systems in use or being developed? What about warning when people are asleep?
5. Should all radio-TV stations have adequate auxiliary power for transmission when power failure occurs? What has been done to correct "blackouts" like that which occurred in the East? Should at least one radio-TV station in metropolitan areas have an auxiliary station outside the central city, preferably underground?
6. When do we begin to require new construction to have adequate, even though minimum, "storm" shelter protection? Can this be managed through those agencies providing federal funds for any purpose?
7. Immediately after disaster strikes, what can be done to curtail the indiscriminate broadcasting by radio-TV stations which magnifies the damage and personnel requirements? Don't we often compound the disaster by over dramatization of personnel requirements at hospitals or in the disaster area? Should a representative of the Civil Defense Agency and a physician have a *firm* liaison with news media?
8. Should we take another strong look at our

communications system, telephone, radio, intra- and inter-hospital communications? Do all CD emergency crews know the disaster communications organization—police, fire and medical? Should the telephone system look into the placing of emergency lines underground? Should one-third, one-half or two-thirds of the telephone system be "knocked out" in a major disaster, if adequate planning has occurred and proper action taken to correct deficiencies? Should more courses in depth be given CD personnel and other emergency units in existing communication systems? Should hospitals have adequate emergency power to operate their communication systems in case of municipal power failure?

9. In the care of trauma patients, we are hearing and reading more and more of "mud," particularly in tornadoes. Should we take a new look at this area of emphasis—a special "first" room for cleaning of the patient? Shouldn't a specialist in tracheotomies be stationed there? Couldn't this be the same room as that assigned for radiation decontamination in case of nuclear warfare? Are we still separating the walking wounded from the litter cases or, due to lack of realistic disaster exercises, are we slipping backward in this area? Do you feel too many non-emergency X-rays are being taken in the initial stages? Are we more concerned with major wounds than with the proper care of minor wounds which contribute to high morbidity if not properly cared for? Do we still retain a fetish for definite surgical care in the early stages of a disaster? What are the accepted steps of medical service by students of disaster medical care—do you feel these need constant repetition?

10. How much information do CD officials have on explosions due to chemical causes? What should they know about chemical industries, nuclear power plant and ionizing radiation? What special precautions should be taken in the management of chemical explosions? What type of casualties would you anticipate?

11. Have we forgotten, somewhat, about mutual aid in natural disasters? Are CD directors interested in mutual aid pacts in time of disaster? Does mutual aid assistance just rush into an area without a request for specifics by the CD director in charge of a disaster area? How can we "batten down the hatches" in this area of needed assistance? Who pays for mutual aid assistance? If money is available, are the facts and procedures for procurement well publicized? Do mayors and county commissioners know about it?

12. When we begin to pick up the pieces, are the Salvation Army and Red Cross publicizing sufficiently the need for financial assistance rather than donations of food, clothing, etc.? Is it not true that too often gifts, other than money, are perishable, all of one kind or unusable?

13. How do we immediately let displaced persons know that financial assistance is available? What can the federal government do for people and communities? How much "red tape" is involved in this assistance? Where does John Q. Public go to get funds to replace his home and household effects? Who provides medical care, drugs and dressings for disaster patients not hospitalized? Who pays for prolonged hospitalization, if a person has lost all his worldly possessions? Who pays for artificial limbs, burial expenses, care of children orphaned by disasters? How do we care for the prolonged treatment of a patient who may be a paraplegic as the result of a disaster? Who cares for his family during this personal catastrophe?

The following points were considered as essential to proper management in time of disaster:

a. A good medical-health-hospital disaster plan with a *realistic, semi-annual* exercise utilizing live, simulated casualties and all the services of the community. This was strongly emphasized. There is no substitute.

b. Develop communication needs with the experts —leave nothing to chance.

c. Pull your main hospital electrical switch to test your supposed connections to the auxiliary power for lighting, elevators, communications system, etc.

d. Check with telephone companies to determine how you can cut out all incoming or outgoing calls at the hospital, except those needed to control the disaster.

e. Have an airtight liaison between Civil Defense directors and radio-TV stations so that unneeded calls for help are eliminated. Broadcasters garble the needs and compound the confusion in the disaster area and in the hospital.

f. At least one radio-TV station should have a control center outside a major city and located underground with its own auxiliary power system.

g. A knowledgeable physician should sit at the Civil Defense Central Control Station to issue instructions for requirements of hospitals for personnel, distribution of supplies and patients.

h. In some way, the medical profession must do a better job of training the untrained physician in the management of ordinary soft tissue wounds. We are still, after 15 years of talking, doing primary suturing of such wounds without proper cleansing and debridement. This is elementary and fundamental. Even as late as the Topeka tornado, failure to observe simple rules has resulted in a multitude of infections. We talked about this as long ago as the Worcester, Massachusetts, tornado. Plans and cooperative hospital staff members are meaningless unless hospital staffs are trained again and again and again—cleanse the wound, debride it and place thereon a sterile dressing.

(Continued on page 16)

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The cryptenamine in DIUTENSEN-R helps improve normal vasodilating reflexes while the thiazide and reserpine components maintain vasorelaxant, sedative, and saluretic benefits. Cryptenamine lowers pressoreceptor reflex thresholds (which may be abnormally high in hypertension)—"resets" pressoreceptors to function at more nearly normotensive levels.

Early, more decisive control with DIUTENSEN-R helps secure continuing benefits—may reduce or even obviate the need for poorly tolerated drugs later in therapy.

"...quite apart from the problem of vascular damage, there arises a possibility of virtual 'cure' or remission of hypertension when treatment is early, i.e., before too many other secondary pressor systems have entered into the disequilibrium of pressor control, and when it is adequately suppressive."

Corcoran, A. C.: The choice of drugs in the treatment of hypertension. In: Drugs of Choice 1966-67, W. Modell, Ed., St. Louis, C. V. Mosby Company, 1966, p. 417.

Indications: DIUTENSEN-R may be employed in all grades of essential hypertension. **Dosages:** Usual dose is 1 tablet twice daily, at morning and evening meals. However, adjustment of dosage to suit individual circumstances may be required. Please refer to package insert for full particulars. **Side effects and precautions:** The side effects observed with patients on DIUTENSEN-R have been of a mild and nonlimiting nature. These include occasional urinary frequency, nocturia, nasal congestion, muscle cramps, skin rash, joint pains due to gout symptoms and nausea and dizziness which have been reported for the individual components. Most of these symptoms disappear while the drug is continued at the same or lower dosage level. The concomitant use of digitalis and DIUTENSEN-R may increase the possibility of digitalis-like intoxication. If there is evidence of myocardial irritability (extrasystoles, bigeminy or AV block), dosage of DIUTENSEN-R should be reduced or discontinued. Nocturia in patients with marginal cardiac status and salt and fluid retention can be effectively controlled by limiting the time of administration to early afternoon. DIUTENSEN-R should not be used in patients with a known intolerance to reserpine. Package inserts furnish a complete summary of recommended cautions related to each of the ingredients of DIUTENSEN-R.

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i. Pharmacists should be given complete responsibility in the procurement, storage and distribution of drugs and supplies.

j. There must be a czar who runs all aspects of emergency medical care in a hospital in time of mass casualties—both litter cases and walking wounded. The litter cases receive good care—the walking wounded get the infections. The czar must develop an in-hospital flow of patient traffic and see that it functions.

k. The medical profession, not the Red Cross nor anyone else, must control the use of tetanus toxoid and tetanus anti-toxin. One wouldn't believe it, but tetanus anti-toxin was used indiscriminately in one natural disaster—distributed by the Red Cross and used by physicians not knowledgeable in its use.

l. Disturbed disaster survivors are not a problem. Relatives of the lost and/or injured are a major problem. Handling of injuries is the major function of the hospital. It might be better to publicize the use of the Red Cross as the source for learning about the lost or injured. The hospital could relay information to the Red Cross. Hospital communications would thus be free from overload.

m. If a hospital is not a General Hospital such as the Neurological Hospital, medical-health personnel there must be given minimum training in casualty care. A few physicians, other than psychiatrists, should be assigned to such a specialty hospital in time of disaster. Should mass casualties occur in the vicinity of such a hospital, people are going there. To them, it is a *hospital.*

n. The discriminatory dismissal of patients from a hospital to make way for casualties has presented no problem. In fact, patients who were ambulatory and able have asked to be discharged so they would not take up a bed needed for the injured. People are inately good and rise to the occasion.

o. Hospitals must have their own security personnel. This should be a function of the local police department. If pre-planning is done well, the law enforcement agency will have sufficient auxiliary police.

p. There should be a chain of command in depth. For example, the Red Cross should have more than one physician as its medical advisor. In one disaster, the physician's family was involved and he did not arrive. He was in the group who distributed tetanus anti-toxin. In other words, all groups having a responsibility during disaster should take a new look at their SOP.

PRESCRIPTIONS

Of special interest, and in relationship to the new drive by the AMA National Safety Council, the U. S. Public Health Service and others to improve disaster medical care, was the address by Mr. Joseph Pierlot of Belgium. The Belgians are far ahead of us. Because of the carnage on their highways, just as we have in the U. S., they decided to do something about it. Their country is small, but we could copy their plan on a state basis.

Belgium is divided into zones. There is a central disaster headquarters in Brussels that is manned 24 hours a day. The headquarters office looks like the giant operations office of a military operation. (I visited there in 1964.) In each zone, hospitals, physicians, ambulances, police and firemen are cranked into the disaster organization. Civil Defense handles a part of the operations; the Public Health Service handles the medical aspects. Along the arterial highways, telephones are located a mile apart on each side of the highway. A sign states, "In Case of Emergency, Dial 900." The words are in English, French and German. If an accident occurs, a person dials 900 and gets the operator at Central Control in Brussels. The operator (a fireman) tapes the conversation. The location of the disaster appears on a dial electronically. Knowing the location of emergency facilities, personnel, etc. in each zone, the operator notifies by electronic equipment the nearest disaster group who is on the scene in a matter of minutes. The Belgians have a goodly number of specially equipped ambulances costing $20,000 each. A physician must accompany each of these ambulances. They have all types of electronic diagnostic and treatment equipment.

New highway telephones recently have been installed. They do not require dialing. One just pulls a lever and gets center control.

(Continued on page 20D)

National Medicolegal Symposium To Be Held in Miami Beach

Miami Beach has been selected as the site for the 1967 National Medicolegal Symposium jointly sponsored by the American Medical Association and the American Bar Association.

To be held at the Fontainebleau Hotel March 9-11, the meeting is one of the most significant on medicine and the law and is expected to be attended by 2,000 physicians and lawyers.

The national forum promotes mutual knowledge, appreciation and understanding between the two professions. It affords an opportunity for lawyers and doctors to discuss matters of common interest and to seek solutions for interprofessional differences.

Outstanding spokesmen of both professions will present stimulating and enlightening information and opinion on four major subject areas with 17 specific topics. Subject areas are:

—Roadblocks in interprofessional communications.

—The physician as a client.

—Legal rights of the mentally ill.

—Legal therapy for health-care problems.

Among the topics are compulsory court attendance, compensation for the medical witness, medical evidence in jury trial, "battered child" laws and combatting health-care frauds.

The meeting will start at 1 PM Thursday, March 9, and will conclude at noon Saturday, March 11.

Registration fee, which includes a reception and a copy of the proceedings, is $30.00.

Advance registration and additional information may be obtained by writing Law Division, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610.

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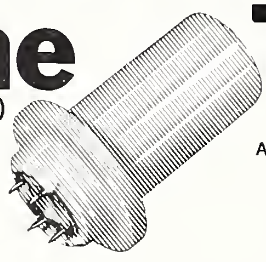

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Notes of interest from Here . . . . and There

Dr. John Arnold, Kansas City General Hospital and Medical School, was one of a panel of 12 of the world's foremost authorities on malaria who met at the Parke, Davis & Company Research Laboratories recently. The panel has called for greater public awareness of the disease, especially among those engaged in international travel. The importance of malaria control and eradication is shown by the World Health Organization report to the panel that 362,000,000 persons live in parts of the world where the disease is endemic—Africa, Latin America, Southeast Asia and South Pacific. The Geneva survey showed that there were 120,000,000 international travelers last year on a world-wide basis, of which 3,000,000 were from the United States.

Dr. John H. Wells, Kansas City, received an alumni citation award from Bishop College in Dallas, Texas, and was the featured speaker at a homecoming brunch at the college in November. Dr. Wells is president of the Kansas City Medical Society, a member of the Kansas City Society of Internationalists in the Jackson County Medical Society and an assistant professor of medicine at the University of Missouri School of Medicine.

Dr. R. W. Bohnsack, Brookfield, was presented a wrist watch as a gift of appreciation from the football teams of Brookfield High School at the annual football banquet in 1966. Dr. Bohnsack has served as team physician for both teams for seven years.

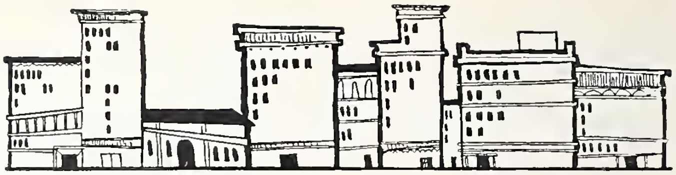
Dr. Marvin R. Alberg has been appointed Associate Medical Director of Business Men's Assurance Company in Kansas City by BMA President W. D. Grant. Formerly Assistant Medical Director, Dr. Alberg joined BMA in 1961. A Commander in the Naval Reserve Medical Corps, he is active in national, state and local medical groups.

Dr. Kenneth M. Kays, a native of Eldon, has announced that he has moved to St. James where he will be associated with **Dr. E. A. Stricker** at the Stricker Clinic. **Dr. Jerald P. Lane** has joined the medical offices of **Doctors E. S. Jones** and **R. L. Wheeler** in Harrisonville. **Dr. Arnold N. Kanter** is now practicing with **Doctors Bernard Mullins** and **F. A. Pileggi** in Gladstone.

In response to an urgent request from South Viet Nam, the U. S. Medical Research & Development Command has developed a lightweight litter lifting device which can be attached to any helicopter equipped with a personnel-type hoist. The 12-pound device will be used for lifting patients to a hovering helicopter from jungles. Evacuation can be accomplished even through jungle openings 20 to 25 feet in circumference. Successful lifts have been accomplished from an altitude of 250 feet without the device spinning or rotating in the air.

Dr. W. R. Jordon is now practicing medicine in Hillsboro. Dr. Jordon is a staff member of Incarnate Word Hospital, St. Louis, and for many years was director of the Division of Health and Hygiene, St. Louis Board of Education. J. T. Subow, DDS, is practicing dentistry in Hillsboro, jointly occupying the office with Dr. Jordon.

From the Medical Schools



ST. LOUIS UNIVERSITY

St. Louis University Medical Center has announced appointment of new faculty members in the Schools of Medicine, Dentistry, Nursing School and Department of Hospital Administration in the Graduate School.

Named to the rank of associate professor and their specialty were: Dr. Herbert C. Butts, prosthetic dentistry; Dr. Ralph D. Cooper, oral medicine; Dr. Lawrence B. Senterfit, pathology; Dr. John J. Taylor, anatomy; and Dr. Karl K. Webber, operative dentistry.

Appointed assistant professors were: Dr. Jean G. M. Bossy, anatomy; Dr. George D. Commerci, pediatrics; Dr. Federico R. DelaRosa, orthodontics; Mrs. Anne L. Green, assistant professor of nursing; Dr. John J. Lang, clinical radiology; Dr. William J. Longmore, biochemistry; Dr. Hassan Nouri, clinical professor of gynecology and obstetrics; Dr. Vincent G. Palermo, pathology; Dr. Mario B. Pianetto, clinical professor of internal medicine; Dr. Joseph R. Suriano, microbiology; Dr. Joel S. Trupin, microbiology; Dr. Gilbert N. Zoeller, prosthetic dentistry; and Dr. Camillus L. Witzleben, pathology. Appointed visiting assistant professor of microbiology was Dr. Tamara Hudnik-Plevink.

GET WELL CARDS
Bill O'Malley

Dr. Ernest N. Boetcher, who became director of the St. Louis University Hospitals June 1, received the dual appointment of assistant professor of internal medicine and hospital administration.

Professorial lecturers and their areas of specialty were: Dr. Wilbur I. Christopher, Jr., hospital administration; Dr. Rodney M. Coe, medical sociology in the department of neurology and psychiatry, School of Medicine; Dr. Frank J. Gruchalla, oral medicine; Dr. Max Kornfeld, crown and bridge; Dr. Earl J. Poe, Jr., practice management; Dr. Donald Paul Redfern, oral medicine; Dr. Thomas J. Seright, oral medicine; Dr. Frank A. Strake, prosthetic dentistry; Dr. Charles H. Tweed, orthodontics; Dr. Albert F. Wesson, medical sociology; and Dr. Walter E. L. Williamson, prosthetic dentistry.

Named senior instructor in psychiatry was Dr. Joseph D. Callahan.

Appointed instructor was Dr. Roger D. Alexander, crown and bridge; Dr. William E. Allen, Jr., radiology; Mrs. Susan M. Andrius, physical therapy; Dr. Yavuz Aykent, internal medicine; Dr. Keim L. Baird, psychiatry; Dr. Gerald J. Domingue, microbiology; Dr. Leonard J. Dumonceaux, psychiatry; Dr. Richard J. Ferry, neurology; Dr. Jan Thomas Goff, psychiatry; Dr. Jack Ging Lun Jue, pharmacology; Dr. Orhan M. Ozmat, radiology; Dr. Charles E. Pierce, internal medicine; Dr. Leon D. Prokop, physiology; Dr. Papineni S. Rao, reproductive physiology in gynecology and obstetrics; Dr. Robert S. Smith, psychiatry; Dr. Charles G. Theirauf, radiology; Dr. Clarence M. Turner, gynecology and obstetrics; Dr. William L. Skimming, orthopedic surgery; Mrs. Lynda Van Wagoner, medical reference librarian; Mrs. Janet P. Youel, nursing and Miss Leona D. Stoll, nursing.

Dr. William Stoneman, III, assistant clinical professor of surgery at the St. Louis University School of Medicine, has been elected president

(Continued on page 21)

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New Members

Thomas F. Alderman, M.D., 920 West 47th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Alderman is a native of Seneca Falls, New York, received his preliminary education at Rockhurst College and his M.D. degree at the University of Tennessee in 1957. He specializes in general surgery.

Ivan A. Anderson, M.D., 101 Texas Ave., Columbia, has become a member of Boone County Medical Society. Dr. Anderson is a native of Wenatachee, Washington, received his preliminary education at the University of Idaho and his M.D. degree at the University of Louisville in 1939. He is in general practice.

Charles L. Chapman, M.D., 313 E. Briarwood, Columbia, has become a member of Boone County Medical Society. Dr. Chapman is a native of Morehouse, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1962. He specializes in internal medicine.

David Davis, M.D., 801 Crestland Ave., Columbia, has become a member of Boone County Medical Society. Dr. Davis is a native of Liverpool, England, received his preliminary education at Shawlands Academy and his M.D. degree at Glasgow University in 1949. He specializes in psychiatry.

Gloria J. Garner, M.D., 2200 McCoy, Kansas City, has become a member of Jackson County Medical Society. Dr. Garner is a native of St. Stephens, Alabama, received her preliminary education at the University of Alabama and her M.D. degree at Tulane University in 1956. She specializes in psychiatry.

Lynn O. Litton, M.D., 814 S. Greenwood, Columbia, has become a member of Boone County Medical Society. Dr. Litton is a native of Atwood, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1943. He specializes in orthopedics.

Donald E. McIntosh, M.D., 2316 E. Meyer Blvd., Kansas City, has become a member of Jackson County Medical Society. Dr. McIntosh is a native of Detroit, Michigan, received his preliminary education at Marquette University and his M.D. degree at Marquette University in 1960. He specializes in anesthesiology.

Carlos J. Perico, M.D., 4000 Baltimore, Kansas City, has become a member of Jackson County Medical Society. Dr. Perico is a native of Colombia, South America, received his preliminary education at St. Thomas Aquinas College and his M.D. degree at Javeriana University in 1960. He is in general practice.

CORRECTION

Arnoldo Kuczer, M.D., who is a new member of the St. Louis Medical Society, received his M.D. degree from the Colegio Nacional Mariano Moreno in 1955, instead of 1966 as published in the December, 1966, issue of MISSOURI MEDICINE.

Civil Defense Conference (Cont'd)

A Belgian law states that all persons must assist the sick and injured, unless life or limb is endangered by such assistance. This is the exact opposite of our U. S. situation in which a law suit might result from activity as a Good Samaritan. Some feel our Good Samaritan laws in some states are not foolproof.

Too many DOA's arrive at our hospitals. The American Red Cross has trained scores of thousands of citizens in first aid. Yet a hospital in Memphis, Tennessee, reported that less than one-half of 1% of those injured arriving at the hospital had received first aid prior to arrival.

Funeral directors throughout the country were, for many years, the backbone of ambulance service. They are rapidly going out of such service, leaving a vacuum in many areas. We need to know how many ambulances there are in the U. S., how they are distributed, whether or not the drivers are trained in first aid and the resuscitative equipment available at the scene of the disaster and on the way to the hospital.

Sixty-five medical-health and lay personnel appeared on the medical programs at Louisville, representing 14 medical-health organizations in the United States and Canada. It was an exceptional meeting for those dedicated to the betterment of Disaster Medical Care.

Medical Schools (Cont’d)

of the St. Louis University Hospitals medical staff. Dr. Stoneman, a plastic surgeon, succeeds retiring president Dr. James G. Janney, Jr., professor of clinical medicine at the School of Medicine, who has held the office for a one year period.

WASHINGTON UNIVERSITY

Dr. Philip Rogers Dodge has been appointed head of the Edward Mallinckrodt department of pediatrics at the School of Medicine. He is presently assistant professor of neurology at Harvard Medical School and pediatrician and neurologist at Massachusetts General Hospital. He will assume the administrative position here July 1, 1967. Dr. Dodge has been at Harvard Medical School since 1955. Since 1962, he has served as director of the Joseph P. Kennedy, Jr., Memorial Laboratories for the Study of Mental Retardation at Massachusetts General Hospital. He has been at the forefront of the development of pediatric neurology, which is concerned with mental retardation, cerebral palsy, epilepsy and muscular dystrophy.

Dr. David Goldrin, pediatrics professor, has been acting head of the department since 1963.

Washington University School of Medicine has appointed Dr. Reimut Wette as professor of biostatistics and director of the newly created division of biostatistics in the department of preventive medicine and public health. Dr. Wette, 39, formerly was associate professor of biomathematics at the University of Texas M. D. Anderson Hospital and Tumor Institute in Houston. He also holds the appointment of professor of applied mathematics in the department of applied mathematics and computer science in the university’s School of Engineering and Applied Science.

Dr. Carl. G. Harford, professor of medicine, has been elected President of the Washington University Medical Society. The organization is composed of all members of the Washington University School of Medicine faculty and students.

Vice President is Dr. Daniel J. Torrance, associate professor of radiology, and Dr. Luis Glaser, associate professor of biological chemistry, is Secretary-Treasurer.

Council members are Dr. Milton N. Goldstein, associate professor of anatomy; Dr. Mark A. Stewart, assistant professor of psychiatry and pediatrics; and Dr. David Schlessinger, assistant professor of microbiology.

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Preliminary Program

109th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Chase Hotel, St. Louis **April 6-9, 1967**

Thursday, April 6

1:00 PM Registration of Delegates.

3:30 PM House of Delegates Meeting, opening session.

5:45 PM Reference Committee meetings.

Friday, April 7

8:00 AM Registration.

9:00 AM *Tax Dollars and Medical Care.* (Sponsored by MSMA Committee on Aging.)
Moderator: Stanley S. Peterson, M.D., Springfield
Panel Participants:
Arthur E. Hess, Director, Bureau of Health Insurance, Department of Health, Education and Welfare, Baltimore, Md.
F. J. L. Blasingame, M.D., Executive Vice President, American Medical Association, Chicago, Ill.
(Third speaker to be announced.)

10:30 AM Intermission to view exhibits.

11:00 AM *Diagnosis and Treatment of Cutaneous Malignancies.*
Moderator: Wilfred E. Wooldridge, M.D., Springfield.

1. *The Diagnosis of Cutaneous Malignancies,* Philip C. Anderson, M.D., Columbia.
2. *Electrodesiccation and Curretage of Basal and Squamous Skin Cancer,* Philip C. Anderson, M.D., Columbia.
3. *Surgery of Cutaneous Malignancies,* James Clawson, M.D., Springfield.
4. *A Resumé of the Mohs Technique of Chemosurgery in Treatment of Cutaneous Cancer,* G. Thomas Jansen, M.D., Little Rock, Ark.
5. *Radiation Treatment of Basal and Squamous Cell Skin Cancer,* Wilfred E. Wooldridge, M.D., Springfield.

11:00 AM *Controversy in the Management of the Depressed Patient.* (Sponsored by the Missouri Academy of Psychiatry.)
Moderator: James N. Haddock, M.D., St. Louis.

1. *Psychotherapeutic Approach to the Management of Depression,* David Davis, M.D., Columbia.
2. *The Pharmacological Approach to the Management of Depression,* Kathleen Smith, M.D., St. Louis.
3. *Electro-Convulsive Management of Depression,* George J. Lytton, M.D., Kansas City.
4. *Over-All Management of Depression by the Primary Physician,* Shervert H. Frazier, M.D., Houston, Tex.

11:00 AM *Problems of Arthritis and Connective Tissue Diseases.* (Sponsored by the St. Louis Rheumatism Society.)

12:30 PM Fifty-Year Club Luncheon.
Committee on Maternal Welfare Luncheon: Francis Bayard Carter, M.D., Durham, N. C., Guest Speaker; Annual Report on Maternal Mortality Statistics in Missouri and Two Case Reports.
General Luncheon: *Winning the Battle Against Socialism in Agriculture,* Charles B. Shuman, President, American Farm Bureau Federation, Chicago, Ill. (Sponsored by MSMA Committee on Medical Economics.)

2:30 PM *Family Planning.* (Sponsored by the MSMA Committee on Maternal Welfare.)
Moderator: A. C. Trueblood, M.D., St. Louis.

1. *Intra-Uterine Devices for Contraception,* Francis Bayard Carter, M.D., Durham, N. C.
2. *Oral Ovulation Suppression and Rhythm Contraception,* Joseph M. Krebs, M.D., St. Louis.
3. *Conventional Methods of Contraception,* Dan L. Berger, M.D., Shawnee Mission, Kansas.

2:30 PM *Antibiotics.* (Sponsored by Missouri Society of Internal Medicine.)
Moderator: Frank Carey, St. Louis.
Panel Participants:
Mark H. Leeper, M.D., Chicago, Ill.
(Two Missouri Speakers to be announced.)

2:30 PM *Surgical Session: Gastrointestinal Lesions.* (Sponsored by Missouri State Surgical Society.)
Moderator: Robert W. Bartlett, M.D., St. Louis, President, Missouri State Surgical Society.

1. *Obstructing Lesions of the Lower Thoracic Esophagus—Differentiation and Treatment,* G. V. Brindley, Jr., M.D., Temple, Texas.
2. *Carcinoid Tumors,* Cyril Costello, M.D., St. Louis.
3. *Safety Factors in Resections of the Colon and Rectum,* Robert W. Bartlett, M.D., St. Louis.
4. *Diagnosis and Management of Acute Massive Upper G. I. Bleeding,* Howard E. Linville, M.D., Kansas City.

4:00 PM Intermission to view exhibits.
4:30 PM House of Delegates, second session.
5:45 PM Missouri State Medical Foundation Annual Meeting.
6:00 PM Reference Committees.

Saturday, April 8

8:00 AM Registration.

9:00 AM *Emphysema.* (Sponsored by Missouri Chapter, American College of Chest Physicians.)
Moderator: David N. Kerr, M.D., St. Louis.

1. *Subject to be announced*—Herbert C. Sweet, M.D., St. Louis.
2. *Pink Puffers and Blue Bloaters,* David W. Cugell, M.D., Chicago, Ill.
3. *Surgery and Emphysema,* John W. Polk, M.D., Springfield.

9:00 AM *Surgical Approach to Ischemic Heart Disease.* (Sponsored by Missouri Heart Association.)
Moderator: A. M. Estes, M.D., Cape Girardeau.

1. *Coronary Angiography,* F. Mason Sones, M.D., Cleveland, Ohio.
2. *Surgery for Coronary Arterial Disease*—The Cleveland Clinic Experience, D. Brian Effler, M.D., Cleveland, Ohio.
3. *Experimental and Clinical Approach in Revascularization of the Entire Heart,* Arthur M. Vineberg, M.D., Montreal, Canada.

10:30 AM Intermission to view exhibits.
11:00 AM Program to be announced by Missouri University School of Medicine.

11:00 AM *From Missouri Physicians.*
Brief presentations on subjects of current interest.

1. *Long Term Administration of Benzydroflumethiazide in Hypertensive Patients,* Joseph C. Edwards, M.D., St. Louis.
2. *The Value of Cerebral Biopsy in the Diagnosis of Neurologic Disease,* Kenneth R. Smith, Jr., M.D., St. Louis.
3. *Some Practical Aspects of Thyroid Problems,* A. Denton Vail, M.D., Springfield.
4. *Considerations in Diagnosis and Therapy in One-Hundred Cases of Renal Hypertension,* James M. Stokes, M.D., St. Louis.
5. *Sleep, Its Problems and Physiology,* Jack R. Eidelman, M.D., St. Louis.
6. *Frustrations of Small Bowel Roentgenology,* M. Wendell Dietz, M.D., Springfield.

11:00 AM *Triumphs of Cancer Cure.* (Sponsored by the Missouri Division, American Cancer Society.)
12:30 PM Missouri University Alumni Luncheon—Annual Award Recipient to be honored.
12:30 PM General Luncheon—Program to be announced by the MSMA Committee on Legislative Matters.

2:30 PM *Stroke—Practitioners Role in Rehabilitation.* (Sponsored by MSMA Committee on Physical Medicine and Rehabilitation.)
Moderator: Edward B. Shires, M.D., Kansas City.

1. *The Differential Diagnosis and Acute Care of the Stroke Patient,* John E. Somers, M.D., Columbia.
2. *Surgical Treatment of the Stroke Patient,* Robert D. Williams, M.D., Smithville.
3. *Rehabilitation of the Stroke Patient,* Robert Allen, M.D., Columbia.

2:30 PM *The Physician's Concern with Basic Medical Factors Related to Automobile Driving Ability and the Detection of Deficiency.* (Sponsored by the MSMA Committee on Trauma.)
Moderator: Richard E. Lord, M.D., St. Louis.

2:30 PM *The Anesthetist's Role in the Management of the Unconscious Patient.* (Sponsored by the MSMA Committee on Anesthesia.)
Moderator: W. W. Tillman, M.D., Springfield.
Panel Participants:
M. T. Jenkins, M.D., Dallas, Texas.
Hector W. Benoit, Jr., M.D., Kansas City.
(Third speaker to be announced.)
4:30 PM Intermission to view exhibits.
7:30 PM Annual Banquet honoring Past Presidents of MSMA.
Speaker: U. S. Senator Edward V. Long.

Sunday, April 9

7:30 AM House of Delegates Meeting, breakfast and final session.

MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS MISSOURI ASSOCIATION OF BLOOD BANKS

1967 Annual Meeting

Chase-Park Plaza Hotel, St. Louis **Thursday, April 6**

Morning Session

Stockholm Room
Basic Experiences With the SM 12 (Multi 12) Analyzer—Marilyn M. Erickson, B.S., St. Louis.
Sources of Error in Auto-Analyzer Operation—Robert R. Cole, M.D., St. Louis.
To be announced

Afternoon Session

Basic Principles of Atomic Absorption—Arthur Zimmer, Ph.D., St. Louis.
Title to be announced—William T. Newton, M.D., St. Louis.

Friday, April 7
Morning Session

Stockholm Room
Title to be announced—Robert W. Brangle, M.D., St. Louis.
Abnormal Hemoglobins—Methods of Study and Theoretical Background—Virginia Minnich, M.S., St. Louis.
Normal Bone Marrow Interpretations—Agustin Torres, M.D., St. Louis.

Afternoon Session

Program sponsored by the Missouri Association of Blood Banks. (To be announced.)

Saturday, April 8
Morning Session

Stockholm Room
Short-cuts and Pitfalls in Clinical Microbiology—Raymond F. Gray, Ph.D., St. Louis.
Biological Studies of the Common Antigen of Enteric Bacteria—Jerald Domingne, Ph.D., St. Louis.
Data Processing in Bacteriology—George E. Gantner, M.D., St. Louis.
Recent Developments in Syphilis Serology—Valgard Jonsson, Dr.P.H., St. Louis.

Afternoon Session

Stockholm Room
Business Meeting

MISSOURI OPHTHALMOLOGICAL SOCIETY, INC.

Spring Meeting Program

April 7, 1967

Tiara Lounge, Chase-Park Plaza Hotel, St. Louis, Mo.

9:00-12:00 AM	Scientific Papers on Clinical Ophthalmology presented by members of the Society. (10:15 Coffee Break.)
12:00 NOON	Luncheon and Missouri Ophthalmological Society Business Meeting for election of new members to the Board of Directors and election of officers.
2:00 PM	Adjournment to the American Association of Ophthalmology (Missouri Chapter) panel discussion.
3:00 PM	Adjournment to the Missouri State Medical Association House of Delegates Meeting.

Continuing Education Coming Events

Feb. 6-10	**Post-Graduate Course for Internists** "Biochemical Mechanisms in Internal Medicine" The American College of Physicians Barnes and Allied Hospitals and Washington University School of Medicine, St. Louis
Feb. 9	**Conference—Hematology: Utilization in Clinical Diagnosis** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Mar. 1	**Post-Graduate Conferences for Practicing Physicians** Department of Internal Medicine St. Louis University School of Medicine Cardinal Glennon Hospital Auditorium, St. Louis (6 hours)
Mar. 8-9	**Conference—Management of Common Fungal Diseases** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Mar. 31-Apr. 1	**19th Annual Midwest Cancer Conference** Lassen Hotel, Wichita, Kansas (AAGP credit)
Apr. 13	**Conference—Inflammatory Diseases of the Liver** Continuing Education, M.U. School of Medicine Medical Center, Columbia
May 10-11	**Conference—Hypertension** Continuing Education, M.U. School of Medicine Medical Center, Columbia

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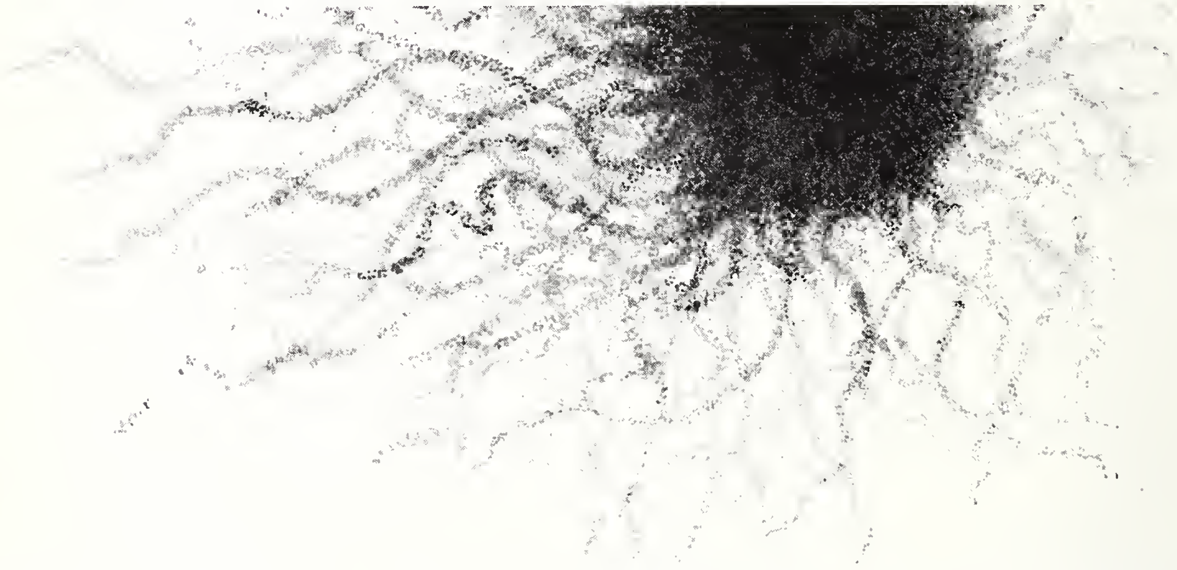
SQUIBB NOTES ON THERAPY

CANDIDA ALBICANS: NECESSARY EVIL?



How serious is monilial infection? It is hard to prove; but when host resistance drops, monilial infection can be very serious. Consider the problem of monilial infection generally. Two investigators postulate that secondary thrush of the bronchi caused by *C. albicans* may pave the way for bacterial invasion of the lungs.[2] Monilial pyelonephrosis in a young child presumably was related to a bloodstream spread of thrush from the alimentary tract.[3]

Thus, the physician browsing in the literature may wonder if *C. albicans* is not more pathogenic than he had thought. In fact, Seelig[4] concluded, after an exhaustive literature review, that this organism, only slightly pathogenic in high concentrations on the mucosa of the normal subject, increases markedly in pathogenicity when host resistance drops.

Antibiotics and increased candidiasis Almost 20 years of clinical experience has established the usefulness of the tetracyclines beyond question. All "...possess a wide range of antimicrobial activity against gram-positive and gram-negative bacteria, which overlaps that of penicillin, streptomycin, and chloramphenicol."[5]

But...monilial superinfection associated with tetracyclines and other broad-spectrum antibiotics persists. Indeed, the incidence of secondary candidal fungal infections associated with antibiotic therapy has continued to rise. Analysis of autopsies in a general hospital from 1919 to 1955 showed an increase in secondary fungal infections since 1947.[6] More yeastlike fungi have been isolated from pediatric patients during the antibiotic era.[7] In fact, although some investigators question the clinical significance of Candida identification in clinical studies, "...the preponderance of evidence indicates that the use of antibiotics is associated with

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JACK ZUCKNER, M.D. *and* ROBERT H. RAMSEY, M.D., *St. Louis*

Modified Methods of Steroid Administration in Arthritis

Fifteen years have elapsed since Kendall and Hench discovered the marked anti-inflammatory action of cortisone for the treatment of rheumatoid arthritis. Undesirable side effects accompanying the administration of steroids have been a problem ever since. Chemists have formulated many new synthetic steroid derivatives in an effort to attain greater therapeutic effectiveness while, at the same time, diminishing unwanted side effects. Altering the molecular structure of cortisone by hydroxylation at C-11 and at C-16, dehydrogenation at C-1-C-2 and at C-6-C-7, fluorination at C-9 and at C-6, methylation at C-2, C-6, C-16 and at C-21, and desoxygenation at C-21 has resulted in many compounds with demonstrated differences in anti-inflammatory potency and metabolic properties. Some have been used in common practice, namely, hydrocortisone, prednisone, prednisolone, 6-methyl prednisolone, triamcinolone, dexamethasone, betamethasone, fluprednisolone and paramethasone. Unfortunately, all the anti-inflammatory hormones made available thus far have caused many of the same deleterious reactions that were prevalent originally.

Another approach to the lessening of side effects consists of modifying the method of administration of many of these same steroids. This has been done by utilizing different dosage schedules for oral administration or by using different routes of administration. These varying procedures may be classified as follows:

Steroid Administration

1. **Orally**
   a. **Divided Doses Daily**
   c. **Intermittently**
   c. **Once daily**
2. **Intra-articularly**
3. **Intramuscularly**

The usual method of giving steroids in divided doses orally will not be discussed except to refer to the concomitant use of methandrostenolone. Clark and Mills[1] reported a lowering of the oral steroid dose and a sense of well being when both drugs were used together. Recently, an intermittent oral corticosteroid dosage regimen has been described by Harter, Reddy and Thorn[2] as giving encouraging results. These authors administered steroid orally as a single dose every 48 hours. This single dose equalled the total of the divided doses that would have been given over the 48 hour period. Their studies revealed approximately equal efficacy and substantially reduced side effects with this method of steroid administration, especially less adrenal suppression. Most of their patients, however, were not individuals with arthritis, but had various other conditions, primarily asthma. Additional information regarding this method of administration in patients with rheumatoid arthritis is meager, but the impression gained is that only some rheumatoids may respond satisfactorily to this regimen, particularly those with lesser degrees of activity of their disease.

Patients receiving relatively large doses of steroids orally (15 mgm or more of prednisone or equivalent daily) probably will derive a less favorable response. Further experience with this treatment schedule in rheumatoid arthritis by other investigators is needed to determine the incidence of satisfactory results as well as the type patients most suitable for its use.[3] Another intermittent oral dosage schedule was described by Fisher, Panos and Melby[4] in patients with juvenile rheumatoid arthritis. They treated 15 patients with triamcinolone intermittently, seven days on therapy and five days off, or a three day on, four day off therapy regimen. Medication was administered for a mean duration of 22 months; patients were started on 12 to 20 mgm triamcinolone per day. Eleven of the 15 patients had a remission or major improvement in their disease. There was exacerbation of disease activity on days when medication was withheld during the early months on their intermittent treatment program, but this subsided as the duration of therapy lengthened. The authors reported that the only complication of significance was osteoporosis. Only moderate suppression of pituitary-adrenal function was observed.

Demos and his coworkers[5] studied a single daily dosage schedule and found that 58% of 76 patients with rheumatoid arthritis were effectively controlled with triamcinolone in this manner. They administered the drug at 8 AM in an attempt to minimize adrenal suppression by adjusting to the natural diurnal secretion of cortisol. Corticosteroid side effects with once a day therapy approximated those resulting from divided doses when the same total amount was administered. Dubois *et al*[6] and Matthews[7] obtained similar or somewhat better results with single daily dose oral corticosteroid therapy. Harter *et al*[2] showed that single daily dose therapy did not result in less adrenal suppression than the divided daily dose treatment schedule. All these variations in the oral method of steroid administration require additional study because the data obtained this far are not sufficient for definitive conclusions.

The intra-articular injection of steroids has its well established advantages in individuals particularly suited for this therapy, namely, those with one or two peripheral joints or local areas causing difficulty, or patients in whom systemic steroid administration or other measures employed for multiple joint involvement are not adequately controlling resistant or severely diseased articulations. With this form of treatment, undesirable metabolic changes and systemic toxic reactions that follow systemic administration of anti-rheumatic steroids usually do not occur. Hydrocortisone acetate was the first very effective anti-rheumatic preparation for local administration; it was followed shortly by the trial of many other steroids for intra-articular administration. Those most commonly used have been the tertiary-butylacetate (TBA) and PO_4 derivatives of hydrocortisone, prednisolone acetate and similar TBA and PO_4 derivatives, diacetate and acetonide forms of triamcinolone, dexamethasone PO_4; and 6-methyl prednisolone.

The TBA derivatives have been reported by some investigators to give superior results.[8] Others[9] have not found this to be true. The phosphate derivatives and the other preparations have not proved strikingly superior with the possible exception of triamcinolone acetonide. Preliminary observations[10] suggest a greater degree of improvement with triamcinolone acetonide, but there are insufficient data at this time for a conclusive interpretation. If the latter is superior, the reason for this may be partially dose related, as relatively much larger dosages, 20 to 50 mgm, and occasionally 100 mgm, have been administered. The larger dosages of triamcinolone acetonide resulted in significant generalized systemic responses and, also, coincident evidence of side effects similar to those following orally administered steroids.

A greater incidence of local reactions to intra-articular steroid injections has been observed in recent years. McCarty and Hogan[11] have suggested that these reactions may be caused by the crystalline nature of the steroid injected —the steroid crystals initiating an inflammatory reaction similar to that which was described as due to uric acid crystals in gout or calcium pyrophosphate crystals in pseudogout. This possibility may have been enhanced by refined manufacturing processes of steroids resulting in fewer impurities and a great likelihood of more crystalline structures being present. However, local reactions to the soluable phosphate derivatives of steroids have also occurred, indicating that the crystal-induced inflammatory reaction is not the only cause for local reactions following steroid injections.

The intramuscular route of administering steroids is the last method to be discussed. In our group,[12, 13] we have had the opportunity to study several steroids by intramuscular administration; they were triamcinolone acetonide (TACTN), triamcinolone diacetate (TDAC), the depot preparation of 6-methyl prednisolone (DM), triamcinoline acetonide monoenanthate (TM) and triamcinoline acetonide tertiary-butylacetate

(TATBA). Over a three year period, 87 patients with rheumatoid arthritis were treated by intramuscular injection of these preparations. There were over 1150 injections utilizing a 100 mgm dose per injection. Most of the injections (532) were of DM, and there were 444 of TACTN.

The average duration of satisfactory improvement after a single injection was approximately 24, 16, 18, 16 and 18 days for TACTN, TDAC, DM, TM and TATBA, respectively. In a few instances, hydrocortisone acetate in a 500 mgm dose was injected intramuscularly for comparison and resulted in improvement averaging 5.2 days per injection. Approximately 70-85% of injections with any of the steroids excepting those of hydrocortisone acetate gave a satisfactory response. A satisfactory response was defined as greater than 50% improvement for a period of seven or more days. Triamcinolone acetonide proved most beneficial as 87% of injections with this steroid were followed by such a desirable effect with an average duration of improvement of 24.6 days.

Fifty and 140 mgm injections of TACTN were given to some patients and compared with the 100 mgm dose. The 50 mgm dose was significantly less satisfactory than the 100 mgm dose. Although a greater degree of improvement followed the 140 mgm dose in a few patients, it did not seem advisable to use this larger dose routinely because of potentially increased toxicity.

Moon facies, ecchymoses and hirsutism, were the most common side effects. Moon facies were definitely decreased after several months of intramuscular therapy in five patients, and increased in a like number. Eleven patients noted significant diuresis following the injections. Muscle cramps were not uncommon. Only one patient developed a duodenal ulcer during treatment with intramuscular steroids, but he had a previous history of peptic disease. Gastrointestinal symptoms were noted infrequently. Most of the other commonly known reactions to steroids occurred in about the same frequency as with orally administered steroids. The effect of intramuscular TACTN on adrenal cortical function was evaluated by Hefley *et al*,[14] who found depression of 17-hydroxycorticoid output for several weeks after a single injection, and for several months in a few patients who were given a few injections spaced over a period of approximately one to one-and-a-half years.

The explanation for the prolonged response following intramuscular injections of these steroids remains speculative. It may be a consequence of administering a large dose resulting in an initial high blood level of the drug. Thus, higher concentrations of steroid might accumulate within the inflamed synovial cells giving more efficient suppression of inflammation. The effectiveness of this method of therapy may also be due to a "depot effect." The drug may be slowly absorbed from the tissues and the prolonged response might then be dependent on the rate of absorption into the blood stream. Both possibilities are likely, but further investigation is necessary for clarification.

A report and description of the various methods of steroid administration, i.e., orally by divided daily doses or by intermittent schedule, intra-articularly and intramuscularly. The authors conclude that each of the methods offers certain advantages when used judiciously in selected patients with arthritis. Doctors Zuckner and Ramsey are from the Section of Arthritis, Department of Internal Medicine at St. Louis University School of Medicine where Doctor Zuckner is Director of the Section and both are Associate Professors in Clinical Medicine.

This intramuscular method of administering steroids offers further advantages in manipulation of these drugs for several reasons: (1) about 25% of the patients had more satisfactory relief than from previous oral steroid therapy; (2) this method of treatment may be particularly advantageous in limiting gastrointestinal complications; and (3) although evaluation of toxicity will require more prolonged observation, there is evidence to suggest that if injections are relatively widely spaced, that is, greater than three weeks apart, other side effects may be decreased as compared to those following oral steroid therapy.

Other investigators have also found the intramuscular administration of steroids advantageous at times.[15-18] However, if the response to the injections is not satisfactory, administration at more frequent intervals, such as, once every one or two weeks, will probably result in marked side effects and, therefore, is not advisable.

SUMMARY

In summary, we still are lacking the ideal therapy for many arthritides. Nevertheless, there is good evidence to suggest that steroids, when

(Continued on page 33)

ERNEST LORENC, M.D., ***Springfield***

A New Factor in Griseofulvin Treatment Failures

Case Report

Treatment failures with griseofulvin are infrequent. When they do occur, the usual fault is that of inadequate intestinal absorption of the drug. This problem has been partially solved by reducing particle size and administering griseofulvin with fatty meals. A further, and as yet unexplained, cause of failure may be the concomitant administration of phenobarbital, as suggested by Busfield *et al.*[1] It is the purpose of this paper to present such a case, i.e., a patient taking phenobarbital in whom an infection with Trichophyton rubrum did not respond to adequate amounts of orally administered griseofulvin.

Case Report

The patient is a 38-year-old, single white sales girl. She had a 23 year history of petit mal seizures well controlled with 120 mgm phenobarbital and 100 mgm diphenylhydantoin daily. She was first seen in May 1958 for probable tinea pedis, but culture on Sabouraud's medium was negative.

In September 1960, the patient presented an eczematous paronychial eruption of two months' duration on the left thumb, accompaned by minimal nail dystrophy. Culture of the skin grew out Trichophyton rubrum.

In January 1961, treatment with griseofulvin, 500 mgm twice daily, was started and continued through May 1961 with apparent complete clearing of both skin and nail. The vesicular dermatitis on the left thumb recurred in July 1961. Culture again was positive for Trichophyton rubrum from both skin and nail.

Again griseofulvin, 500 mgm twice daily, was begun on July 5, 1961. A month later the vesicular eruption was still present and the dose was increased to 500 mgm three times a day. Reculture of left thumb at that time was negative but culture of right thumb nail, which had become dystrophic, was positive for Trichophyton rubrum from both skin and nail. Griseofulvin, 500 mgm three times a day, was continued until November 16, 1961, a period of over four months. At this time, reculture of the right thumb nail was still positive for Trichophyton rubrum.

In January 1962, the left thumb nail, which was obviously dystrophic, was avulsed under local procaine anesthesia and griseofulvin, 500 mgm twice daily, was again given. During this period of treatment, the new nail developed a few white spots. In March 1962, culture again yielded Trichophyton rubrum. Griseofulvin, 500 mgm twice a day, was continued through July 1962, at which time both skin and nails were clinically normal. In August 1963, a culture of a vesicular eruption of the skin on the left thumb grew out Trichophyton rubrum for the fourth time. This culture was sent to Ayerst Research Laboratories who reported it to be sensitive to 0.15 mcgm per milliliter of griseofulvin in vitro.

It was decided at this time that blood levels of griseofulvin should be determined. On November 7, 1963, fasting blood specimen was obtained and then 1000 mgm griseofulvin was given by mouth on an empty stomach. Four-hour and eight-hour specimens were then taken. All specimens were immediately spun down and the serum frozen. This sequence was repeated one week later using micronized griseofulvin. All samples were analyzed by Ayerst Research Laboratories. The results of these determinations are shown in Table 1. Table 2 shows the average blood levels obtained in 18 volunteers.[2]

Discussion

Busfield *et al* reported that the rate of metabolism of some drugs in animals is increased by certain compounds, one of which was phenobarbital. Their studies with humans did indeed show that phenobarbital decreases blood levels of griseofulvin significantly. They were unable to deduce from their studies what mechanism caused this reduction in blood levels of griseofulvin. It is not known whether prolonged administration of higher doses of phenobarbital will

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A case report which focuses attention on experimental studies that show phenobarbital decreases blood levels of griseofulvin. Doctor Lorenc is in the private practice of dermatology in Springfield and Consultant to the Section of Dermatology, Department of Medicine, University of Missouri School of Medicine.

TABLE 1

SPECTROPHOTOFLUOROMETRIC DETERMINATIONS OF SERUM GRISEOFULVIN LEVELS OF PATIENT

Day	*Griseofulvin (Type)*	*Single Oral Dose (mg.)*	*Serum Levels (γ/ml) (Hours After Dose)* 4 HRS.	8 HRS.
1	Ordinary	1,000	0.2	0.1
8	"Grisactin"	500	0.4	0.1

TABLE 2

DETERMINATIONS OF AVERAGE SERUM GRISEOFULVIN LEVELS IN EIGHTEEN VOLUNTEERS (2)

Griseofulvin (Type)	*Single Oral Dose (mg.)*	*Serum Levels (γ/ml) (Hours After Dose)* 4 HRS.	8 HRS.
Ordinary	1,000	1.07 ± 0.09	1.10 ± 0.11
"Grisactin"	500	1.18 ± 0.09	1.11 ± 0.09

inhibit griseofulvin blood levels even more significantly than shown in this preliminary study.

Our patient had a proven Trichophyton rubrum infection that was sensitive in vitro to rather low levels of griseofulvin.[3] The poor clinical response and even complete relapse, while taking more than the recommended dosage of griseofulvin, can only suggest that perhaps phenobarbital played some part in the failure of treatment. Attempts to obtain cooperation from the patient in discontinuing the medications for the petit mal seizures and repeating serum griseofulvin levels were unsuccessful. Had this cooperation been obtained, definite clinical proof might have been established showing that phenobarbital was the cause of treatment failure.

In conclusion, it can be stated that this clinical case report is consistent with experimental studies in rats and humans that show phenobarbital does lower blood levels of griseofulvin in some unknown way.

Acknowledgment: The author wishes to express appreciation to Doctors Richard A. Carey, Associate Medical Director, Ayerst Laboratories; D. Dvornik, Ayerst Research Laboratories; and W. E. Wooldridge, Springfield, for their assistance in the preparation of this paper.

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Modified Methods of Steroid Administration (Cont'd)

used judiciously and only when indicated in suitable patients, still have an important place in the treatment of these diseases. This is particularly true for rheumatoid arthritis. The various methods of administration of steroids, that is, orally by divided daily doses or by an intermittent schedule, intra-articularly or intramuscularly, may all offer certain advantages for selected patients and should be considered when these drugs are recommended.

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PHILLIP W. CARR, M.D. *and*
MANFRED THURMANN, M.D., *St. Louis*

The Treatment of Cardiac Arrhythmias with Electrical Cardioversion

Electrical cardioversion has become an increasingly used, safe and rapid method of treatment of a variety of arrhythmias. It is becoming apparent that this method should be the treatment of choice of arrhythmias under many circumstances. The purpose of this review is to emphasize the superiority of this method of therapy over drug therapy, in the hope that it will encourage a wider use of electrical cardioversion.

The aims of anti-arrhythmic therapy, of course, depend on the specific situation. However, in general, the purpose of converting an arrhythmia to a sinus rhythm is to improve the cardiac output, increase the stroke volume, achieve a more optimal heart rate and improve the electrical activity of the heart. All of these factors will lead to a better ventricular performance.

An attempt to achieve these aims has been the goal of all the anti-arrhythmic drugs, whose effects are often unpredictable. Their dose will depend on a time consuming titration on each patient. They cannot be given in initial high doses because, if they become pharmacologically toxic, there is no specific antidote available to stop their activity. Quinidine and procaine amide are drugs used for the treatment of many arrhythmias. Both decrease myocardial contractility, depress impulse formation and conduction, increase myocardial refractoriness and have a vagolytic effect. These are undesirable effects, especially in patients being treated for an arrhythmia who may have serious underlying heart disease. There is a definite risk of toxic reactions[1] and death occurring with the use of these drugs.[2] Lown[3] has spelled out the ideal method for abolishing atrial and ventricular arrhythmias. The ectopic mechanism should be controlled instantly and consistently. There should be no depression of the normal cardiac pacemakers, no prolongation of conductivity, no impairment of myocardial contractility and vital structures of the heart should not be injured or altered. Furthermore, the method should be simple in application and not time consuming.

Electrical cardioversion of cardiac arrhythmias comes very close to fulfilling all of these requirements. Its use is based on the following factors. Atrial and ventricular arrhythmias are frequently transient, but once initiated, the abnormal mechanism may be self-sustaining because of the circulation of wave points of excitation over fixed or variable pathways.[4] If an ectopic rhythm can be momentarily extinguished, the center of highest rhythmicity will resume as the dominant cardiac pacemaker. Frequently this is the sinus node, but any other viable pacemaker may take over the pacing of the heart. The entire heart can be depolarized across the intact chest by a short but strong electrical impulse, thus extinguishing the ectopic focus or foci and allowing the highest center to take over as the pacemaker. That this can be accomplished safely without damage to the heart has now been convincingly demonstrated.

Alternating current (AC) countershock has become the accepted method of treatment for the termination of ventricular fibrillation, first applied clinically directly to the heart in the open chest[5] and then demonstrated to be effective across the closed chest.[6] Although it has been shown that AC countershock may be effectively employed in ventricular tachycardia[7] and atrial arrhythmias,[8] Lown demonstrated that in animals direct current (DC) countershock could more effectively control certain arrhythmias and do so with less danger of producing a secondary arrhythmia and serious myocardial lesions such as myocardial infarction. Recently Levin and Cohen have shown that the levels of serum oxalacetic transaminase remained normal two to 24 hours after DC electroshock in 42 patients.[9] It is undoubtedly the work of Lown and his co-workers who have led the way and propagated the wide spread use of DC electrical cardioversion. It had long been known[10] that the heart was especially vulnerable to ventricular fibrillation when an electrical discharge occurred during the T wave of the electrocardiogram. Lown demonstrated that this vulnerable period actually occurred in the 30 millisecond period just preceding the apex of the T wave. A period of vulnerability for the atrium was also demonstrated; discharge during the inscription of the downslope of the R or the S wave would frequently result in atrial fibrillation. He demonstrated that the least vulnerable period was 20 milliseconds after the peak of the R wave.

The electrical cardioverters which are now available are DC apparatus whose main components include a specific wave form, calibrated in Watt/seconds with enough energy to depolarize the heart across an intact chest, a synchronizer that can discharge during a pre-selected phase of the cardiac cycle and a cardioscope for continuous display of cardiac electrical activity.

Indications

Strictly speaking, all cardiac arrhythmias which alter normal hemodynamics are an indication for conversion, although each arrhythmia should always be evaluated in relation to the rest of the clinical picture. Arrhythmias may be effectively converted with DC countershock. Those which should unquestionably be abolished when they occur are persistent atrial tachycardia, nodal tachycardia, ventricular tachycardia and ventricular fibrillation. Atrial flutter also can be successfully abolished by cardioversion. Atrial fibrillation is undoubtedly the most common arrhythmia encountered which may require cardioversion and, therefore, we will deal with this particular arrhythmia in more detail.

The following are clinical indications for cardioversion of atrial fibrillation:

(a) when the ventricular rate cannot be slowed with adequate drug therapy.

(b) after recovery from successful mitral valve surgery.

(c) patients who have valvular disease but in whom surgery is not indicated or is contraindicated for cardiac or noncardiac reasons and who are symptomatic.

(d) in non-valvular heart disease except in the asymptomatic elderly patient with a normal heart rate.

(e) patients with atrial fibrillation with refractory angina and/or congestive failure.

(f) patients with atrial fibrillation due to thyrotoxicosis who have not reverted to a normal rhythm after being rendered euthyroid.

The contraindications can be summarized as follows:

(a) Patients with uncorrected mitral valvular disease who have large left atria or high atrial pressures may convert to a sinus rhythm, but it is unlikely that they will maintain the normal rhythm. The only use for cardioversion in this type of patients is when cardiac surgery is contraindicated for some other reason or the patient has not accepted surgery. If the patient is highly symptomatic, reversion to a normal rhythm might improve his cardiac function, but the chance of maintaining a normal rhythm is slim.

(b) Cases in which the arrhythmia has repeatedly recurred in the presence of maintenance anti-arrhythmic drugs and in the absence of complicating factors. Patients who revert to atrial fibrillation several months after the initial cardioversion may be again converted, if indicated.

(c) Cases previously converted with non-toxic doses of quinidine may merit another trial with the drug, although this is not a contraindication to electrical cardioversion. We emphasize the use of non-toxic doses, i.e., under 2 gms in 24 hours.

(d) Patients with hyperthyroidism prior to treatment.

Method of Cardioversion

In an emergency situation, there is no time for preparation of the patient and, indeed, none is needed. If the patient is conscious, some sedation should be employed in the form of sodium phenobarbital, morphine sulfate or, if time permits, mild amnesia may be induced with sodium pen-

This is the first article of a series prepared by the Department of Internal Medicine, St. Louis University School of Medicine. Purpose of the series is to help the practicing physician realize a closer association with advances in the field of Internal Medicine and, in some instances, to become acquainted with the assistance available at the medical centers located in Missouri. The authors show here that electrical cardioversion need not be considered the last, desperate attempt at helping an arrhythmic patient in whom drug therapy has failed, but many times can be elected as the initial treatment. Doctor Carr was a Research Fellow of the Missouri and St. Louis Heart Associations at the time this paper was prepared. He is now in the Armed Forces. Doctor Thurmann is a senior instructor in the Section of Cardiology, Department of Internal Medicine.

tothal. The latter is preferred, but an anesthetist should give the drug. Since atrial fibrillation is the most frequently encountered arrhythmia and usually does not require emergency conversion, there are certain steps to be taken prior to cardioversion that we presently employ and recommend. Quinidine should be started two days prior to cardioversion in a dose of 300 mg every six hours. Although the use of quinidine will not improve the percent of patients that will convert at the time of cardioversion, it certainly will increase the number of cases that will remain in a sinus rhythm following electrical cardioversion. Since quinidine should be used as maintenance therapy following cardioversion of atrial fibrillation, it is started in the pre-conversion period to allow adequate time for blood levels of quinidine to be obtained and to determine the patient's tolerance to this drug. A small percent of atrial fibrillations will convert on these small doses of quinidine before cardioversion.

Most patients with atrial fibrillation, who are to undergo electrical cardioversion, are on a digitalis preparation. We have frequently found a marked slowing of the sinus node pacemaker after electrical cardioversion. The quantity of digitalis necessary to maintain a slow ventricular response to atrial fibrillation with no evidence of digitalis toxicity may cause toxicity when sinus rhythm is again present in the form of a marked bradycardia, atrial and ventricular premature contractions and AV conduction delays. We, therefore, routinely discontinue digitalis prior to cardioversion for a period of time which depends on the type of preparation used and on the condition of the patient.

The use of anticoagulants on all patients who are to be cardioverted is debatable and no definite recommendations can be made. Certainly there is no need for anticoagulants when acute ventricular or atrial arrhythmias are to be converted. It is felt, in general, that if these drugs are to be used, the patient should receive adequate anticoagulants two weeks prior to cardioversion. *Recently occurring arrhythmias are the most likely to suffer from embolic phenomena.* Embolic phenomena occur as frequently with a change from an arrhythmia to sinus rhythm as vice versa. Patients with mitral stenosis, atrial fibrillation and right ventricular hypertrophy or failure are more likely to have mural thrombi, so they should be given anticoagulants. However, one could take the attitude that when atrial fibrillation is to be cardioverted as an elective procedure, all possible precautions should be used, and, therefore, if there are no contraindications, anticoagulants should be employed.

The patient is taken to the operating room after fasting for several hours. Unless the patient is extremely anxious, we presently do not use premedication. The electrocardiograph electrodes are attached to the patient's extremities and the "gain" knob on the cardioverter is turned to increase the height of the R wave which will activate the discharge mechanism at a synchronized time. Transient amnesia (not anesthesia) is all that is necessary so that the patient feels no pain. He is given oxygen by mask. Electrode paste is applied to the electrodes and the large flat electrode is placed beneath the left scapula. The other electrode is applied firmly to the mid sternum. Successive discharges are then given using 50, 100, 200, 300 and 400 Watt/seconds until the arrhythmia converts. The electrocardiogram must be analyzed on paper or on an oscilloscope for several minutes after each shock. If conversion is not achieved after several discharges, it is unlikely that persisting with the procedure is warranted. If there is doubt as to the type of cardiac rhythm after each discharge, the use of the unipolar chest lead V_1 is strongly recommended to disclose the nature of the cardiac mechanism, as it is this lead that shows atrial activity the best. The patient is then observed in the recovery room for one hour. Quinidine is continued only if the conversion has been successful. If anti-coagulants have been used in an attempt to prevent thromboembolic phenomena due to the procedure, they may be discontinued.

The final test of any therapeutic agent is, of course, its effectiveness in controlling the process it is proposed to treat. Table 1 shows the high

TABLE 1

Cardioversion Results*

Arrhythmia	*Patients*	*Episodes* TREATED	REVERTED	*% Success*
Atrial Fibrillation	184	227	208	92
Atrial Flutter	33	36	36	100
Superventricular Tachycardia	8	10	7	70
Ventricular Tachycardia	15	32	31	97
Totals	240	305	282	93

* From Lown, B. Mod. Concepts of C.V. Disease 33:869, 1964.

percentage of conversions obtained in the treatment of some of the most frequently seen cardiac arrhythmias. We shall consider the results of electrical cardioversion on the arrhythmias that have been controlled by this method and also indicate when it should be employed in arrhythmias other than atrial fibrillation.

Ventricular tachycardia may be surprisingly well tolerated by the patient or it may be present in a critically ill patient in shock or pulmonary edema. Lown[4] has pointed out that in these severely ill patients, the use of anti-arrhythmic drugs will further compromise the already stressed heart, which is not desirable, and electrical cardioversion would be the initial method of choice. Cardioversion will be expected to terminate an episode of ventricular tachycardia in 97% or more of the patients. In the patient who is tolerating ventricular tachycardia well, an initial attempt to terminate the arrhythmia with procaine amide or quinidine may be indicated. Again, however, one should not persist in "pushing" drugs and, if over 1 gm of procaine amide or 200 mgm of quinidine gluconate is used intravenously without success, electrical cardioversion should then be used. Obviously, if signs of drug toxicity (widening of the QRS complex, falling blood pressure) occur or if the patients get progressively worse, one must desist from this therapy and convert with the electrical cardioverter. We have used 200 Watt/seconds or more for each shock as frequently as necessary.

Supraventricular tachycardias are sometimes transient in nature, but if they persist in spite of sedation, vagal maneuvers, digitalization and the use of quinidine and dilantin, then cardioversion should be employed. In this disorder, cardioversion has been successful in 70 to 80% of cases and 100 Watt/seconds or more can be used.

Atrial flutter is often a transient arrhythmia and may be seen preceding atrial fibrillation, but also is seen in a chronic form. Experience to date with chronic atrial flutter has been most rewarding and virtually every case will convert with electrical cardioversion. When an atrial flutter with rapid ventricular response cannot be slowed with digitalis, electrical conversion should be used. Fifty Watt/seconds is frequently all the energy that is required.

As indicated previously in this review, atrial fibrillation is the most frequently encountered arrhythmia to consider for cardioversion. It is also the most difficult to assess, since many patients tolerate this arrhythmia well and the decision for cardioversion may not be as pressing. It is somewhat difficult to delineate the overall effect of cardioversion on this arrhythmia but, in general, there is excellent proof that the cardioversion to a sinus rhythm increases the cardiac output.[11] Table 2 taken from the experience of Hurst *et al*[12] shows that close to 50% of the pa-

TABLE 2

Patients Showing Marked Diminution in Symptoms Following Reversion of Atrial Fibrillation

Etiology of Heart Disease	*No. of Patients Reverted*	*Congestive Failure*[*] PRESENT BEFORE REVERSION	SIGNIFICANTLY DIMINISHED	*Angina Pectoris*[†] PRESENT BEFORE REVERSION	SIGNIFICANTLY DIMINISHED
Atherosclerotic Coronary Disease	49	27	8	19	8
Hypertensive and Atherosclerotic Coronary Disease	20	9	4	7	4
Hypertensive Heart Disease	15	11	6		
Rheumatic Heart Disease	40	38	18		
Syphilitic Heart Disease	3	2	1		
Diffuse Myocardial Disease	10	10	5		
Thyrotoxicosis	2	1	1		
Atrial Septal Defect	4	4	2		
Miscellaneous	6				
Total	149	102	45	26	12

[*] Congestive failure—marked diminishment signifies great subjective and objective change in the clinical status of the patient. It is not dependent on the long-term status of the rhythm.

[†] Angina pectoris—the majority of these patients (nine of twelve) had complete disappearance of angina; in the other there was marked diminishment. This was dependent on the maintenance of sinus rhythm by the patient.

From Hurst, *et al.* Amer. J. Med. 37:778, 1964.

tients in atrial fibrillation and congestive failure improved considerably after cardioversion. One might assume that this improvement was partly due to an increase in cardiac output. Angina pectoris also has been helped in our experience as well as in the experience of others.[4, 13] Atrial fibrillation will revert to a normal sinus rhythm with cardioversion in approximately 90% of the cases. This is a substantially higher percent than the 70% reversion with quinidine.[14] However, the overall success of the procedure depends on how many patients can be maintained in a sinus rhythm. This will depend, we believe, in large part on the underlying disease, cardiac hemodynamics and cardiac size. In other words, the patients with a huge left atrium, high left atrial pressure or with evidence of active myocardial disease will be much less likely to remain converted than the one with normal or near normal left atrial pressure and size. If the patient does not remain in normal sinus rhythm over 24 hours, it is quite unlikely that repeat cardioversion will be successful. All in all over a long term follow up, about 50% of the patients will maintain a normal sinus mechanism. In our series, 48% still remain in sinus rhythm after an average follow up of seven months (range one to 21 months). It should be stressed that all patients should be continued on maintenance quinidine as long as they continue in sinus rhythm. At the present time, it is unknown if quinidine should be continued indefinitely.

If a patient has maintained a normal sinus rhythm for several months and then reverts to atrial fibrillation or another arrhythmia, it is reasonable to again attempt cardioversion, if indicated. A previous failure to convert atrial fibrillation with quinidine is not a contraindication for a trial with electrical cardioversion, but rather an indication.

Complications

There have been very few complications attributable to electrical cardioversion. Occasionally the patient will sustain a minor skin burn at the point of electrode application, especially when frequent shocks are administered. This will be lessened if the electrode paste is applied liberally and the chest electrodes are held firmly against the skin.

There have been isolated reports of systemic emboli following electroshock therapy.[15, 16] Although this is a disturbing complication, the incidence of its occurrence is so low that it should not be a deterrent to cardioversion. Post conversion arrhythmias may occur, usually immediately, in the form of atrial, nodal or ventricular premature beats or auriculoventricular conduction disturbances; at no time have these arrhythmias produced a decrease in blood pressure. A peculiar problem has been the extremely slow sinus bradycardia occasionally seen following conversion. As was mentioned previously, many of these problems may actually represent digitalis toxicity. Withholding digitalis glycosides a few days prior to conversion, adequate oxygenation during cardioversion and the use of properly synchronized discharges will obviate many of these post conversion arrhythmias.

Contraindications

There are very few contraindications to the use of cardioversion in the arrhythmias outlined above. We stress that the arrhythmia seen in a critically ill patient is not a contraindication but an urgent indication for cardioversion. Arrhythmias thought to be due to digitalis intoxication constitute a relative contraindication to cardioversion because of the problems of the post conversion arrhythmias mentioned above, but if the patient is in serious difficulty due to a very rapid ventricular rate, conversion should be attempted with the electrical cardioverter. The immediate post conversion arrhythmias, which have occurred prior to the appearance of a sinus rhythm or to the continuation of the preconversion arrhythmia, are not considered as complications as they have been very transient and have not produced clinically observable hemodynamic changes.

The following are the electrocardiographic recordings of some electrical cardioversions:

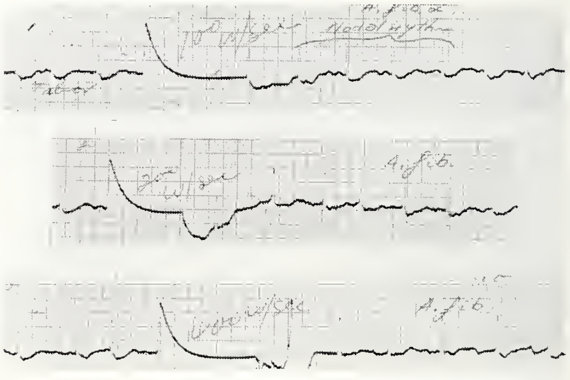

Fig. 1 After 100 W/sec. atrial fibrillation persisted with a short period of nodal rhythm. The cardioversion was not successful after 3 attempts.

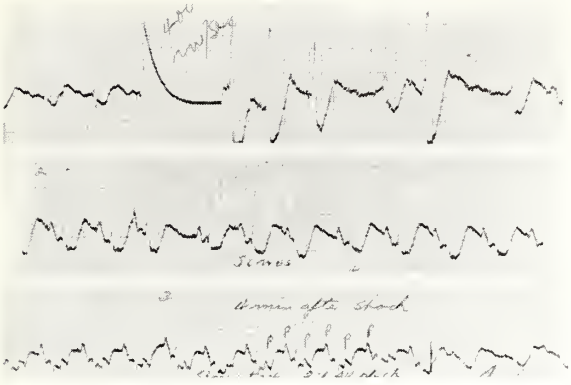
400 W/sec
Sinus
4 min after shock
2:1 AV block

Fig. 2 After several attempts, 400 W/sec. changed the atrial fibrillation to a sinus rhythm which within 4 minutes became a sinus tachycardia with a 2:1 block; atrial fibrillation occurred again.

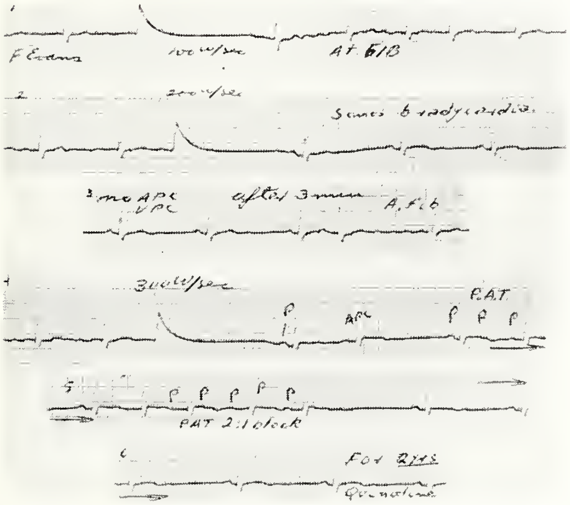
F Evans
100 W/sec
At. FIB
200 W/sec
Sinus bradycardia
no APC VPC
after 3 min
A. Fib
300 W/sec
P
APC
P.A.T.
PAT 2:1 block
For 2 hrs
Quinidine

Fig. 3 After 100 and 200 W/sec. there was a short lasting sinus rhythm. After 300 W/sec. a long lasting sinus rhythm occurred after a short period of paroxysmal atrial tachycardia.

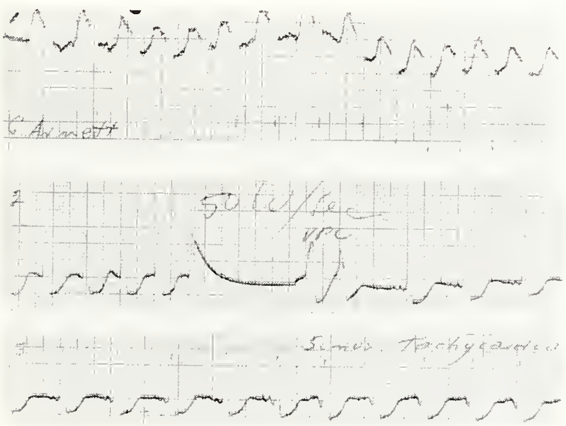
C Arnett
50 W/sec
VPC
Sinus Tachycardia

Fig. 4. Atrial fibrillation converted to sinus tachycardia.

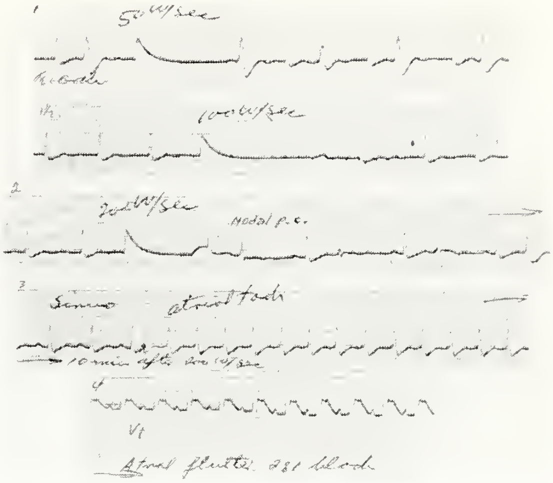
50 W/sec
100 W/sec
200 W/sec
Nodal p.c.
Sinus
atrial tach
10 min after 200 W/sec
Vt
Atrial flutter 2:1 block

Fig. 5 After several attempts atrial fibrillation was converted to atrial tachycardia and atrial flutter.

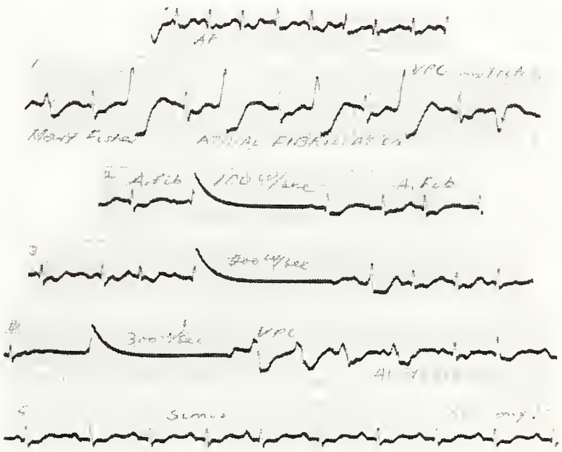
At
VPC
Mary Fisher
ATRIAL FIBRILLATION
A. Fib
100 W/sec
A. Fib
300 W/sec
300 W/sec
VPC
Sinus

Fig. 6 Atrial fibrillation converted to sinus rhythm.

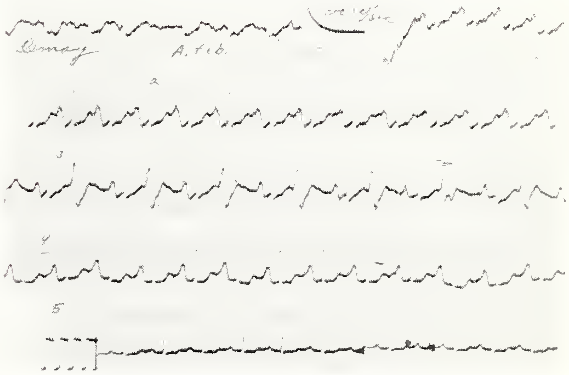

Fig. 7 Atrial fibrillation converted to sinus rhythm with intermittent bigeminal rhythm. The last strip is at normal standardization.

(Continued on page 41)

JANE FRAENKEL-CONRAT, Ph.D., WILLIAM B. CHEW, M.D.
and MAY LEE, B.A., *Columbia*

Note on the Separation of Leukocytes

VARIOUS METHODS HAVE BEEN DESCRIBED for separating leukocytes from whole blood. We found dextran[1] and Polybrene[2] the most satisfactory. Dextran gave the best recovery of white cells with unaltered ratio of granulocytes and lymphocytes. Polybrene gave preparations lower in erythrocytes and less "sticky" than dextran. However, the yield was not as good and there was a greater loss of lymphocytes than granulocytes, thus changing their ratio compared to that in the original blood.

We have tried various methods for separating granulocytes and lymphocytes [3-6] and have found only Rabinowitz's[6] to yield preparations sufficient for our enzyme studies.[7] However, we feel the method described below is simpler and yields less contaminated lymphocyte fractions and more granulocytes.

MATERIAL AND METHODS

Blood specimens. Our blood samples were obtained by venipuncture from blood bank donors and patients with polycythemia and hemochromatosis. Versene is used as the anticoagulant, 0.2 ml of a 5% solution in 1% saline per 10 ml blood. Plastic bags or bottles were used to receive the blood. Make total and differential leukocyte counts on each specimen.

Either plastic or siliconed tubes and siliconed pipettes are used for all succeeding steps of separation.

Erythrocyte sedimentation experiments. Either dextran[1] or Polybrene[2] may be used. Use 150 x 20 mm test tubes for sedimentation procedure.

—Dextran (Laros or Pharmachem, M.W. 228,-000), 6% solution in 0.9% saline: use 4 ml/10 ml versenated blood.

—Polybrene (Abbot), 1% solution: use 0.15 ml/15 ml versenated blood.

Cover tubes with parafilm and invert gently three times. Let stand at room temperature one hour. If sedimentation proceeds too slowly, the tubes may be placed in 37° waterbath for part of the time. When the erythrocytes have settled out, aspirate the leukocyte rich plasma and centrifuge at 3000 rpm for 20 minutes in refrigerated centrifuge (5°C).

Leukocyte separation. Suspend the white cells in a small amount of their respective plasma, giving a concentration greater than 50,000/cu mm, preferably 100,000-300,000/cu mm. Centrifuge this suspension for one-half hour in Wintrobe tubes (encased in tygon tubing to increase the resistance of the tubes) at 2000 rpm in swing-out head (5°C).

Fraction I. Remove the top, white layer with a Wintrobe pipette. This fraction consists mainly of lymphocytes, up to 95%.

Fraction II. Using a Wintrobe pipette, remove the layer just below the lymphocyte zone. It is very pale pink and slightly granular in appearance. This consists of a mixture of granulocytes and lymphocytes. Discard.

Fraction III. With a Wintrobe pipette remove the next lower zone which is somewhat darker pink and more granular than Fraction II. This fraction contains mainly granulocytes, up to 98% of the leukocytes.

Fraction IV. The bottom, dark red layer contains only erythrocytes. Discard.

A description of a new method for separating granulocytes and lymphocytes on a preparative scale based on differential centrifugation of concentrated leukocyte suspensions in Wintrobe tubes.

Doctor Fraenkel-Conrat is Director of Laboratories, Cancer Research Center, and Assistant Professor of Oncology in Biochemistry, University of Missouri Medical Center; Doctor Chew is Hematologist at Children's Hospital of the East Bay and Alameda County Hospital and Consultant in Medicine, U. S. Naval Hospital, Oakland, California; and Miss Lee is Research Assistant, Children's Hospital of the East Bay.

Their investigation was supported by PHS research grants CA 08023-02 and C 5330 from the National Cancer Institute, Public Health Service.

Facility in recognizing the subtle distinctions between layers II and III and in removing the various fractions without contaminating others can easily be acquired with practice.

Suspend the various fractions in cold saline and centrifuge (5°C) at 2000 rpm for 20 minutes. Aspirate the supernatant, resuspend fractions in cold saline, centrifuge at 2000 for 20 minutes and aspirate wash-saline, thus removing contaminating platelets and plasma. Resuspend all fractions in cold saline or buffer for enzyme (or other) assay. Take samples for total and differential counts. From 250-500 ml of blood treated in this manner, we obtained enough lymphocytes and granulocytes for use in our studies on cathepsins.[7] We tested the separated leukocytes for their ability to hydrolyze denatured hemoglobin at pH 3.5 and 8.5 by a modification of Anson's method. Following disruption of the separated cells by sonication, we tested the various subcellular fractions for cathepsins at pH 3.5 and 8.5 and for acid phosphatase.[8]

It might be mentioned here that we use a Sorvall RC-2 refrigerated centrifuge in our work with angle head rotor SS-34 with adaptors for 15 ml tubes for all centrifugations except the Wintrobe-tube separation, for which we use a swinging-bucket rotor HB-4. Three tygon-enveloped Wintrobe tubes (Corning 7990, 116 mm length, cut off at the 95 mm mark) just comfortably fit into the 50 ml Nalgene centrifuge tube accommodated by this rotor.

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The Treatment of Cardiac Arrhythmias (Cont'd)

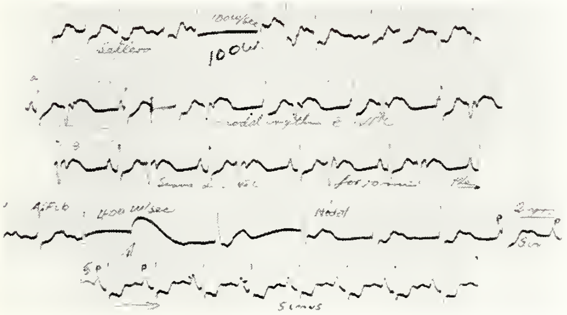

Fig. 8 After several attempts at conversion a sinus rhythm was obtained. A nodal rhythm with ventricular premature beats precedes the sinus rhythm.

SUMMARY

This review is intended to stimulate the interest of the practicing physician in the use of electrical cardioversion. Cardioversion is rapid and simple. The physician is not bound to a time consuming and often frustrating and dangerous titration of a drug. Electrical cardioversion should be the treatment of choice in a variety of arrhythmias and a more widespread use of this clinical tool is encouraged. It is stressed that cardioversion should be used immediately in a rapid arrhythmia which is producing severe cardiovascular insufficiency as manifested by shock, congestive failure or uncontrolled chest pain.

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LEONARD T. FURLOW, M.D., ***St. Louis***

The Neurosurgeon Looks at Pain

Until I was asked to participate in this symposium and was assigned the title, *The Neurosurgeon Looks at Pain,* it had not occurred to me that the neurosurgeon's view of pain *is* different. From the standpoint of my specialty, pain may be divided into a number of different categories, and the method of dealing with the pain may differ in each.

In the first place, the neurosurgeon deals with a type of pain which is valuable in that it constitutes a warning of pathology developing within the patient. In the same way that abdominal pain may be an indication of acute appendicitis or intestinal obstruction, so may headache be an indication of an underlying brain tumor, brain abscess or subdural hematoma. This, then, is a "valuable" pain, because the correction of the pain may be permanently accomplished by the proper treatment of the underlying cause. Unless that cause were corrected, a fatal result might ensue.

Dr. Stewart Wolf has already discussed headache. Further discussion by me would be useless repetition, except that I would like to emphasize two points. The first is that the very sudden severe headache which accompanies spontaneous subarachnoid hemorrhage may be quite similar to the headache which is present in the early stage of virulent meningitis. The similarity is even greater if the meningitis is due to the rupture of an abscess into the subarchnoid space, and since stiff neck, fever and mental confusion or stupor may be common to both, differentiation must be made by careful spinal puncture. The second point is that the headache due to space occupying pathology is rarely constant, but almost always intermittent.

The same sort of "valuable" pain may be present in pathology in the spine. Again, satisfactory relief of pain is only by correction of the underlying cause. Disc pathology, either cervical or lumbar, may be heralded by very little *other* than pain; and spinal cord tumors, especially in the early phase, may produce surprisingly little change in motor power, sensation or reflexes. There is one generalization which is true often enough to be noteworthy and that is that disc pain is *usually* worse on sitting or standing, while spinal cord tumor pain is frequently worse when the patient is lying down.

In many instances, a characteristic part of the picture is root pain with its radiation into an area of distribution which follows the typical pattern. When this pattern is *not* typical, chest or abdominal pain of various sorts may occur, and determining the source of this pain may be very difficult. Therefore, when the source of what *seems* to be organic chest or abdominal pain cannot be disclosed by appropriate studies, one should consider the possibility that the pain may be of spinal origin.

In the second place, the neurosurgeon is called upon to deal with what may be described as "useless" pain. This is severe pain, usually relatively constant and certainly more frequently seen as the result of metastatic malignancy, particularly when that malignancy involves bone or nerves. It is also occasionally seen following trauma, especially traumatic lesions of the spine, and more commonly with lesions which produce considerable scarring in the cauda equina. However, in the vast majority of patients with this type of pain, metastatic cancer is the etiologic agent. Dealing with this type of pain is difficult, for it tends to destroy the morale of the patient, induces a high incidence of drug addiction and occurs in the vast majority of instances in situations where no hope of cure is present.

The most frequent method of handling it is by section of the spinothalamic tract or tracts at a level which is consistent with the location of pain. As a rule the section of the spinothalamic tract should be made, if possible, five to six segments above the level of the pain, which means that in many instances with pain which originates in the pelvis, the most frequent cause, of course, being carcinoma of the cervix in women, a chordotomy done at the upper dorsal area may be satisfactory.

From a theoretical standpoint chordotomy should be an ideal procedure, but from a practical standpoint it has disadvantages. In the first place, all neurosurgeons who have done many chordotomies have found that, while an initial level to pain may be quite satisfactory in the early post-operative period, there is a tendency for this level to drop as the time of operation becomes more remote. In the second place, because of the early crossover of the pathways that carry pain and temperature, it is necessary that a section of the spinothalamic tract be done on the opposite side in order to relieve pain. Although every effort is made to avoid the motor pathways, there may be, in spite of all the precautions that one may take, some resultant weakness of the ipsilateral leg following the procedure. This may make it difficult for the patient to get around. If the pain is bilateral and the chordotomy has to be done on both sides in order to give relief of pain, this very frequently causes bladder disturbance so that retention catheter or some other method of handling the urinary problem may be necessary.

In spite of these disadvantages, chordotomy for the proper type of patient is still the procedure of choice, because it destroys only pain and temperature sensation and leaves intact light touch and position sense. This, of course, is a tremendous advantage over the use of such procedures as posterior root section which would give wide spread total anesthesia. On the other hand, root section to relieve this type of pain may have a very definite place, because if the pain is sufficiently segmental so that the degree of anesthesia be slight enough to preserve some usefulness in the extremity, or if anesthesia of an area of trunk be non-disabling, the certainty of permanent relief is greater than with chordotomy.

In an effort to prevent the fall of the level following chordotomy, the procedure may be done under local and light general anesthesia, and the patient allowed to wake up so that the level may be tested during the course of the operative procedures. With this and other technical steps you are not particularly concerned. Suffice it to say that when you refer a patient to a neurosurgeon for pain relief, you expect and hope that a procedure will be used which will give the sort of relief that you had expected. You must recognize, however, that this is not always easy.

In some instances, permanent chemical block using alcohol or phenol has been tried after intraspinal procaine as a test has relieved the pain. A review of the literature soon convinces one that, in spite of the tendency to report successes rather than failures, this method should not be used except under unusual circumstances. The major sources of failure have been motor impairment, sphincter paralysis, early return of pain or arachnoiditis with hyperalgesia in the areas affected by injection. I would not recommend it.

The third type of pain with which the neurosurgeon has to deal quite frequently is the pain of specific forms of neuralgia. In these conditions, pain is the only symptom of the disease. The vast majority of cases of neuralgia of this type involve either the fifth or ninth cranial nerve and the important thing here is to be certain the diagnosis is correct before surgical treatment is undertaken. Given a patient with even a fair degree of intelligence, the diagnosis of either trigeminal or glossopharyngeal neuralgia is unmistakable from the patient's description.

In the case of trigeminal neuralgia, the pain is always confined to one, two or the three areas of peripheral distribution of the trigeminal nerve, which means that pain never goes into the ear, behind the ear or down on to the neck, and it is never a constant pain. The patient may *describe* it as being constant, but in true trigeminal neuralgia, careful questioning will establish that what the patient considers constant pain is actually continually recurring episodes of paroxysmal tic like pain coming at frequent intervals. It is also quite characteristic that this pain tends to come and go without any specific reason. The patient may experience an episode of recurring attacks of pain which may last for two or three hours to several weeks, and then disappear. The patient may remain free of pain for weeks, months or years. The pain is always described as being a very severe pain, "as if being stabbed," "like an electric shock," "like lightning," etc. There is usually, but not always, a trigger spot, an area on the skin or mucous membrane which when touched will precipitate a bout of pain. The pain is frequently seasonal in its occurrence, and during a period of susceptibility, it may be set off by wind blowing on the face, eating, talking, chewing, etc.

Glossopharyngeal neuralgia, although much less common, is the same sort of pain. It is usually referred to the tonsillar area on one side, occasionally extending into the ear on that side. In tic douloureux of the nervus intermedius, the pain is referred only to the ear.

The treatment of this type of pain has been by medications, by measures which temporarily produce an anesthesia in the area involved or by surgery. That the medical treatment has never really been satisfactory is evidenced by the large number of drugs that have been used for a time in the treatment of this condition, only to be eventually abandoned. Recently, the anticon-

A comprehensive discussion of the different categories of pain and the methods of dealing with each. The author originally presented this paper as part of the *Management of Pain* panel at the 1966 MSMA annual session. Doctor Furlow is from the Department of Neurosurgery, Washington University School of Medicine, and in the private practice of neurosurgery in St. Louis.

vulsant drug, dilantin, seems in some instances to have a good effect. For a number of years, there was a great enthusiasm for the use of vitamin B12 by injection, and quite recently an anticonvulsant type of drug which had been used on an experimental basis has been withdrawn from the market because of occasional side effects which it produced. One may say, therefore, that the medical treatment over the years has not been very satisfactory. For this condition, one should always avoid the use of any drug which might be habit forming.

In trigeminal neuralgia, alcohol injection has been used as a method of treatment, and it will give relief if a satisfactory injection is obtained. Personally, I have not favored its use because it is a procedure which is not always to be completely relied upon, and it is extremely painful to the patient. The injection may be directed at the ganglion itself, and, if a successful ganglion injection is done, total anesthesia of the entire trigeminal area is produced. This means that great care must be taken to prevent ulceration of the cornea. Injection may be done of the second or third divisions as they emerge from their respective foramina at the base of the skull, or injection or avulsion of the supraorbital branch or the infraorbital portion of the second division may be carried out. I, personally, have never seen a patient who was permanently relieved by alcohol injection, but it is a procedure which may be used to advantage occasionally in the very elderly or debilitated individual.

The third method of treatment, and this is applicable to both trigeminal neuralgia and glossopharyngeal neuralgia, is by posterior root section or a section of the root fibers between the ganglion and the brain stem, so that no regeneration occurs. This operation for glossopharyngeal neuralgia produces practically no post-operative residuals that are apparent to the patient, and is an extremely satisfactory procedure. With trigeminal neuralgia, unless pain is primary in the first division, every effort should be made to do a differential section whereby sensation in and around the eye is preserved in order to prevent damage to the cornea. With experience, this may be done without much difficulty and almost always one is able to save the motor division so that there is no atrophy of the muscles of mastication on the affected side.

More recently, many men have been using what is known as trigeminal decompression. Actually, it should be more properly termed trigeminal traumatization. Originally introduced on the theory that many cases of trigeminal neuralgia were due to constricting lesions of the posterior root, either tumor, bands of adhesions, vascular anomalies, etc., a procedure was carried out which was in all respects similar to the usual posterior root section, the only difference being that the posterior root was not sectioned but was adequately decompressed, and in so doing to some extent traumatized. In many instances, the pain was immediately relieved. In approximately 75% of the cases which I have done, this relief has lasted for periods of six months to eight years. It is a procedure which produces some, but much less, numbness than root section, and may be used to advantage in the patient who is much concerned about the numbness which would result from root section. It is very important that the patient who is to undergo root section know in advance about the resultant anesthesia of the lower part of the face, and the difficulty which this may bring about in his eating. He certainly must be warned about the possibility of corneal anesthesia and the resultant care which may be necessary if this is produced.

The treatment of trigeminal neuralgia, then, boils down to a point, where in order to be satisfactory, the pain must be of a paroxysmal type, confined to the anatomical distribution of the fifth cranial nerve, and it must be so severe that the patient is willing and anxious to trade numbness for pain. If this rule is followed, one will have grateful patients, and only true cases of trigeminal or glossopharyngeal neuralgia will be so treated.

A fourth category of pain which neurosurgeons see rather infrequently in civilian practice, but which is very common during times of war, is the causalgic pain which almost always results from incomplete injury of a peripheral nerve, the median in the upper extremity and the tibial in the lower extremity being the ones which are more frequently involved. Causalgia of a similar type, sometimes called minor causalgia, may also be seen with less severe injuries in civilian practice. Causalgia is a constant burning pain, greatly increased by any sort of stimulation of the skin of the affected area unless this stimulation be by some wetting agent such as water or a moist cloth. While this type of pain may eventually be relieved by repair of the peripheral nerve involved, it is much more rapidly relieved by sympathectomy. Because this pain tends to undermine the patient's morale and may lead to early drug addiction, prompt relief should be provided. In the upper extremity, the simplest effective procedure is to divide the pre-ganglionic sympathetic rami to the second and third dorsal ganglia, and to divide the chain below the third ganglion. Removal of the stellate ganglion is not necessary, and Horner's syndrome may be avoided. In the lower extremity, removal of the second and third lumbar ganglia will usually be sufficient, but if the pain persists, more extensive sympathectomy may be required.

The fifth category of pain which the neurosurgeon sees, but about which he can do little, is post-herpetic pain in the individual who is 65 years of age or older, who has had a rather severe attack of herpes zoster and in whom the cutaneous lesions heal but the constant pain persists long after all other evidence of the disease except the scarring has disappeared. These patients are referred with the hope that the neurosurgeon can do something which will make them more comfortable. Unfortunately, in my experience and in the experience of most other neurosurgeons, this has been a vain hope. The procedures used have consisted of a section of the involved roots, a removal of the scarred areas of skin with replacement by skin graft or approximation by undermining the adjacent skin, a section of the appropriate spinothalamic tract, section of the dorsal columns, section of the sensory cortex and, in a few instances, prefrontal lobotomy. I personally, have never seen a surgical procedure which was effective for relief, and it has been my experience that, if this type of pain ever subsides, time is the factor which seems to bring about its disappearance.

Finally, no discussion of pain relief would be complete unless the procedure of prefrontal lobotomy were included. Suffice it to say that, in my opinion, it should be reserved for very rare and unusual types of pain, and in cases where drug addiction is a factor. In spite of technical modifications, directed mainly at reducing the extent of anatomical disruption, the results have been poor in that lasting pain relief may be obtained only when marked intellectual deficit is produced.

In Memoriam

Richard I. McLelland, M.D., Seattle, Washington, a graduate of St. Louis University, 1948; member of St. Louis Medical Society; aged 41; died September 22, 1966.

Carey R. Macdonnell, M.D., Marshfield, a graduate of Indiana University, 1928; member of Webster County Medical Society; aged 74; died October 22, 1966.

Victor E. Schermann, M.D., St. Louis, a graduate of St. Louis University, 1928; member of St. Louis Medical Society; aged 63; died October 26, 1966.

Harold A. Bulger, M.D., St. Louis, a graduate of Harvard University, 1920; member of St. Louis Medical Society; aged 74; died November 2, 1966.

Milton R. Israel, M.D., St. Louis, a graduate of the University of Vienna, 1937; member of St. Louis Medical Society; aged 57; died November 4, 1966.

Don H. Silsby, M.D., Springfield, a graduate of the University of Michigan, 1916; a member of Greene County Medical Society; aged 84; died November 11, 1966.

Timothy T. O'Dell, M.D., Oran, a graduate of Beaumont Hospital Medical College, 1896; a member of Semo County Medical Society; aged 92; died November 12, 1966.

H. A. Harris, M.D., University City, a graduate of the University of Chicago, 1935; a member of St. Louis County Medical Society; aged 61; died November 21, 1966.

HAL G. BINGHAM, M.D., *Columbia and*
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Automotive Crash Injury and the Anterior Cranium

The continuing and increasing epidemic of injuries associated with auto accidents requires further insight into the complex interaction between the vehicle and man himself.[1] Undoubtedly, the most effective single form of crash injury counter measure applicable to present day automobiles is the passenger restraint system. The seat belt has been designed to decelerate the individual with the vehicle or to "package" the passenger within the car. It appears, however, that the major advantage of the seat belt is the prevention of the ejection phenomenon that has an associated high mortality.[2, 3] It seems certain that seat belts do not necessarily prevent the occupant from being injured to some extent, but it is a first step in the right direction and will probably be superseded by advanced forms of combination harnesses providing both pelvic and shoulder restraint.[4, 5]

Frontal and supraorbital injuries continue to be seen with increasing frequency in the trauma room. The authors discuss this facet of auto accident injury and suggest shoulder straps and additional auto safety features as possible preventive measures. They also discuss management methods with particular emphasis on the comminuted frontal sinus fracture associated with avulsion lacerations in this area. Doctor Bingham is Associate Professor of Plastic Surgery at the University of Missouri Medical Center. Dr. Forrest is in the private practice of plastic surgery and a member of the staffs of Hillcrest, St. John's, and St. Francis Hospitals in Tulsa.

The fact that the steering wheel and dashboard or instrument panel constitute the leading sources of injury related to the car and that the head constitutes the most frequently injured part of the body further reinforces the necessity for providing some form of shoulder restraint as well as pelvic restraint.[6] It also suggests the possibility of creating an area around the front seat that has less injury potential by eliminating sharp protruding objects and adequately padding the instrument panel or dashboard.[7]

The frontal and supraorbital region seem to be particularly subject to injury from the steering assembly and dashboard. It is not uncommon for a person riding in the front seat to sustain a severe frontal sinus fracture associated with a deep avulsed laceration of the eyelid and eyebrow, even though they have the protection of seat belts. It is our opinion that, in most cases, a shoulder strap would have prevented the frontal sinus and supraorbital injury by restraining the upper portion of the body or that the injury could have been prevented by modifying the area around the front seat (Fig. 1).

A violent injury to the supraorbital area may result in fractures of both walls of the frontal sinus. There are several potentially severe complications associated with a fracture of the

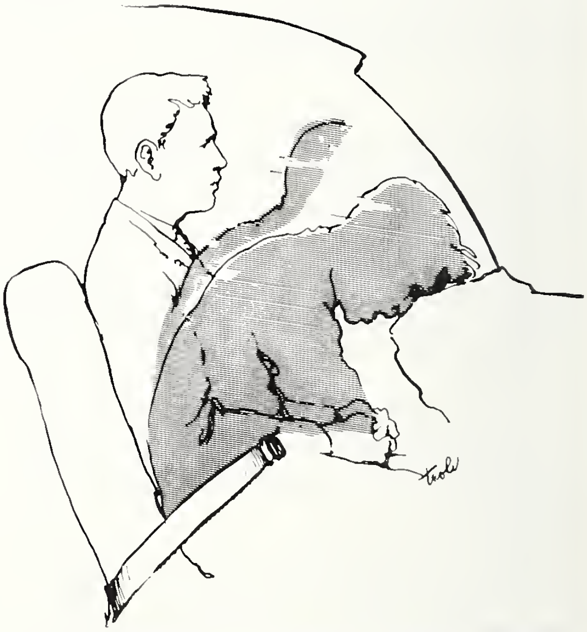

Fig. 1 Seat belt may not protect motorist from dashboard injury.

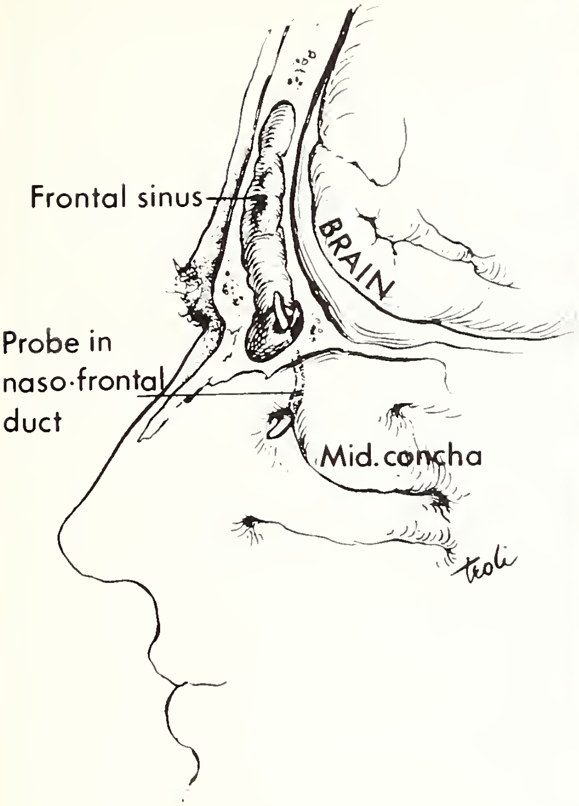

Fig. 2 Side view of frontal sinus.

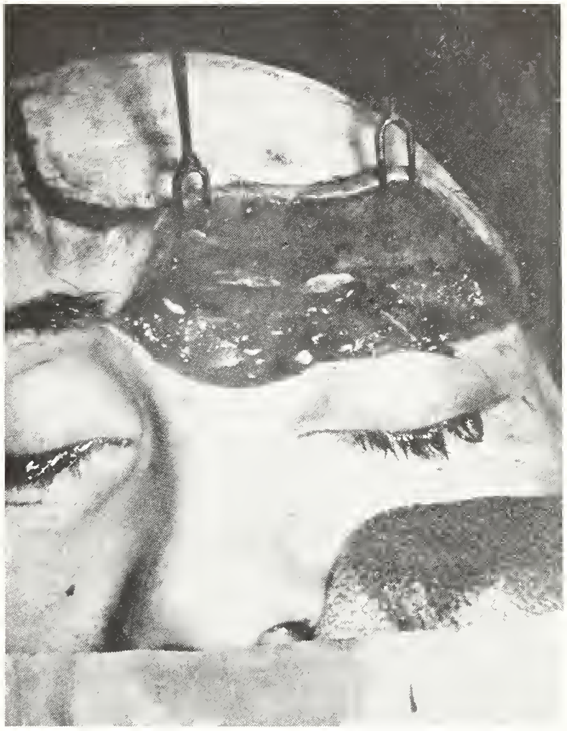

Fig. 3 Avulsion-laceration with underlying fracture of outer table of frontal sinus.

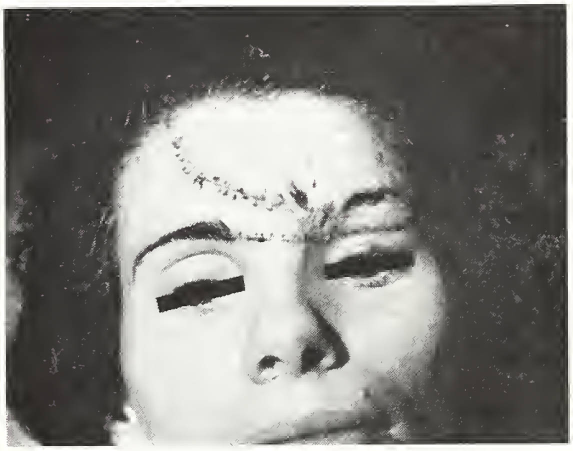

Fig. 4 Early post-operative repair of same patient (5 days).

posterior wall.[8] There is danger of dural perforation and drainage, which may require the services of a neurosurgeon[9] (Fig. 2).

Our experience has been confined primarily to fractures of the outer table or frontal wall of the sinus cavity without involvement of the inner wall. An avulsion-laceration of the forehead or supraorbital region frequently is associated with the fracture which is usually comminuted and depressed. Usually the fragments may be elevated back into position and, unlike lower facial fractures, they will remain in good position without recurrent displacement for there is no musculature to force them to do otherwise. The avulsion-laceration can also be repaired so that minimal scarring occurs in the healing phase of the wound[10] (Figs. 3-6).

In the more extensive trauma with actual loss of skin and bone, flaps may have to be utilized for closure and some method provided for drainage of the sinus cavity. Drainage of the sinus should be through its nasofrontal duct, which may be kept patent by packing or insertion of drains. The patency of the nasofrontal duct may be determined by irrigation of the sinus cavity with a fluid that can be tasted by the patient in his nasopharyngeal region after it has passed through the duct. It has been our practice to use a small perforated French catheter for the drainage and to place it through a separate stab wound in the supraorbital region into the sinus cavity near the ostia of the nasofrontal duct. Daily irrigations are then carried out through the French catheter with an antibiotic solution, usu-

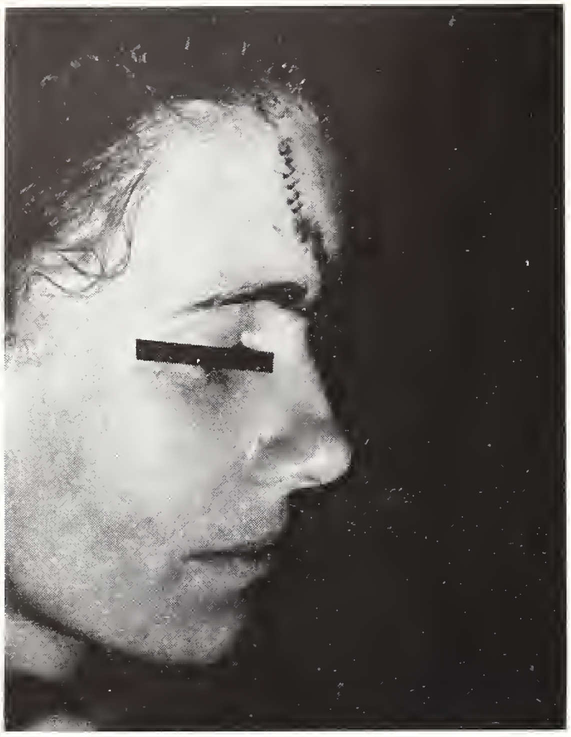

Fig. 5 Side view of same patient.

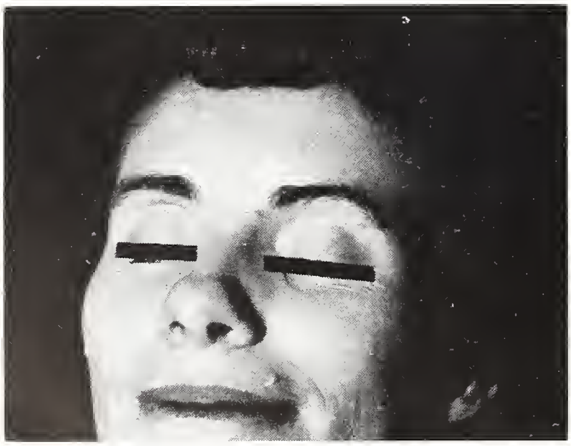

Fig. 6 Late post-operative repair of same patient (6 months).

ally a 1% Neomycin mixture. In ten to 14 days, when the edema has subsided and the patency of the nasofrontal duct has been proved, it is usually removed. We feel that this method of management is preferable to packing the sinus cavity, which in itself may introduce more reaction, edema and stasis of drainage (Fig. 7).

Usually the bone fragments of the outer frontal sinus wall will mold into position and need not be immobilized by direct wiring because there is no muscle pull distortion. However, it may be necessary at a later date to correct a depression due to loss of bone.[11] This can be accomplished by implantation of cartilage, bone or prosthetic material. Our preference is the silastic* block which can be easily cut at the operating table to adequately fill the defect. This is carried out as a second procedure under optimal sterile conditions since the contamination associated with an acute traumatic wound predisposes to infection which will defeat a graft and necessitate its removal.

Discussion

"Generally, the average practitioner of medicine grimly accepts the responsibility of medical and surgical care for the auto accident victims. Specialities such as neurosurgery, orthopedics and plastic surgery frequently are involved, but the medical profession has yet to apply its skill in preventive medicine to control the epidemic wrought by the automobile."[12] There seems to be little cause in debating the issue of the seat belt, for it has demonstrated its value.[13] Our concern is whether or not the seat belt is sufficient protection for the average motorist in today's complex traffic. The addition of a shoulder strap has been suggested, as well as methods for decreasing the injury potential in the area around the passengers. We feel that either of these safety features will give further protection in preventing anterior cranial injuries.

Summary

Frontal and supraorbital injuries from auto ac-

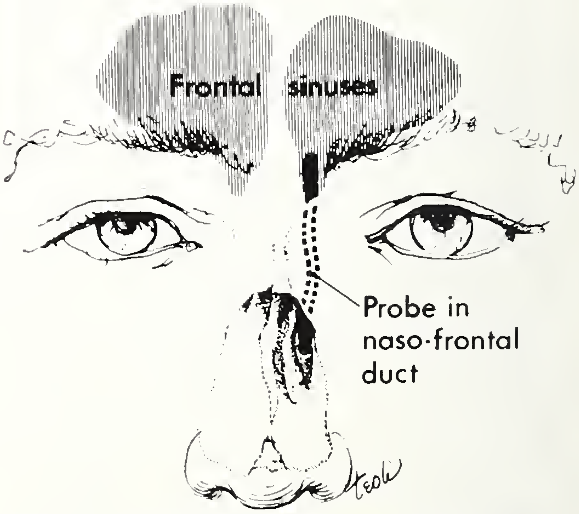

Fig. 7 Nasofrontal duct in relation to sinus cavity.

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* Product Dow Corning Mfg. Co., Midland, Michigan.

cidents continue to be seen in the trauma room with increasing frequency, even though an auto seat belt has been available and worn in some cases. Additional safety features are suggested as preventive measures. Management methods are discussed with particular emphasis being given to the comminuted frontal sinus fracture associated with an avulsion-laceration in this area.

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Special X-Ray Report

Subject: A Hallmark of the Villous Adenoma

M. WENDELL DIETZ, M.D.,* *Springfield*

Benign epithelial tumors of the colon are either adenomatous polyps or villous adenomas. Fundamental differences between these entities are of diagnostic as well as therapeutic importance. Contrasting the uncommon villous adenoma with the ubiquitous adenomatous polyp affords a basic familiarity with its properties.

	Adenomatous polyp	*Villous adenoma*
Incidence	Extremely common	Relatively rare
Number	Multiple	Solitary
Distribution	Generalized	Predominantly rectosigmoid
Base	Stalk	Sessile
Consistency	Compact	Soft
Configuration	Spheroid	Warty
Size of majority	Less than 2 cm	Exceeds 2 cm
Malignant potential	Doubtful	High
X-ray appearance	Smooth, constant, sharply-marginated	Cobblestone pattern, multilobulated excrescences

Only the rectosigmoid villous adenoma causes *electrolyte depletion*. This infrequent variant syndrome is characterized by a clear, watery mucodiarrhea responsible for sufficient salt loss to precipitate acidosis, dehydration and/or shock.

An intriguing feature of the villous adenoma is its unique *pliability*. This polyp is exclusively mucosal with scant stroma and much surface mucus. A series of pathognomonic clinical traits results from its softness:

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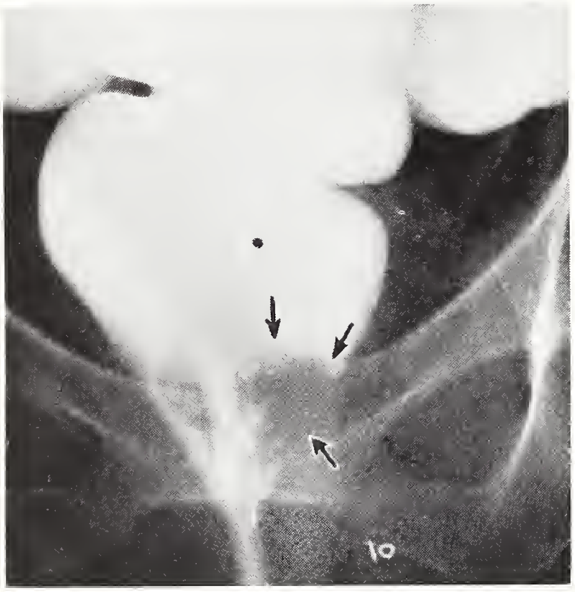
* Director, Department of Diagnostic Radiology, Burge-Protestant Hospital; Clinical Assistant Professor of Radiology, University of Missouri School of Medicine.

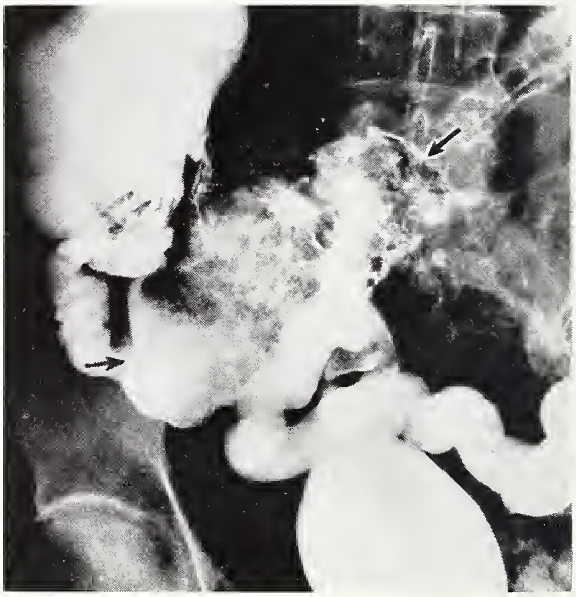
Intestinal obstruction rarely occurs—despite even marked size.
Variability of size and configuration (in pre- and post-evacuation barium films).
Nonpalpable at operation or by rectal examination.
Spontaneous expulsion.
Rectal prolapse.
Sigmoidoscope may shear off segments.
Bleeding secondary to friability (not ulceration).

**RECTAL VILLOUS ADENOMA:
SIMULATING PROLAPSING HEMORRHOID**



Sixty-four year old female, hospitalized because of rectal bleeding, with history of having reduced what she assumed to be a prolapsed hemorrhoid. Rectal neoplasm, at arrows, was an invasive type of *adenocarcinomatous* villous adenoma.

**TRANSVERSE COLON VILLOUS ADENOMA:
NONPALPABLE AT OPERATION**



Arrows demarcate extent of enormous neoplasm of elderly female with diarrhea. Surgeon summoned radiologist to operating room because palpation failed to locate this huge mass. Colotomy at radiologist's insistence identified the tumor showing *adenocarcinomatous* transformation.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
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ince the discovery of chlorothiazide, the trend has een away from short-acting, multiple-dose, high-cost iuretics. With Hygroton you can usually do the job ith just one tablet a day, or every other day.

lore than any of the newer diuretics, Hygroton brings osage and cost of medication down to earth.

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Component Society Meeting Dates

Audrain County Medical Society—third Monday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second and fourth Wednesday of each month.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

At the recent Clinical Convention of the AMA, the House of Delegates considered two major reports, either of which could herald sweeping changes in the training of physicians and the practice of medicine in this country.

One report was that of the Ad Hoc Committee on Education for Family Practice which in 1964 started studying "the problem of the declining number of family practitioners." The Committee concluded, after exhaustive investigation that "the American public needs and wants a large number of well-qualified family physicians to provide comprehensive personal health care." The Committee then outlined a program which, in its judgement, will provide the proper education and training for Family Practice, will offer Family Practice the recognition and status accorded other medical specialties and will inspire medical students and young physicians to enter the field of Family Practice.

The House of Delegates approved the report and accompanying recommendations and authorized the AMA Council on Medical Education to develop and initiate plans for implementing those recommendations.

The second major item which came before the House was the report of the Citizens Commission on Graduate Medical Education. The Millis Report (so called because the Citizens Commission was headed by John S. Millis, Ph.D., President of Western Reserve University) has been compared to the Flexner Report of a half century ago. It offers suggestions for revamping graduate medical education in order to bring it into line with modern and constantly changing society. It proposes, for example, that "graduation from medical school be recognized as the end of general medical education, and that specialized training begin with the start of graduate medical education." ". . . the internship and residency years (would) be combined into a single period . . . of education . . . planned as a unified whole."

By resolution, the House recognized the importance of the Millis Report and called on every physician and every component or constituent medical society to study the report and to prepare such comments or critiques as may be deemed appropriate. The AMA Council on Medical Education plans extensive meetings and discussions on the Report before making any formal recommendations to the House of Delegates.

If Missouri physicians wish to express opinions on the Millis Report recommendations, now is the time to do so. The Report has been referred to the MSMA Committee on Medical Education and Hospitals, William A. Knight, Jr., M.D., Chairman. Doctor Knight and members of his Committee will be interested in hearing the informed views and constructive ideas of individual members or associated medical organizations.

Byron M. Stuart, M.D.

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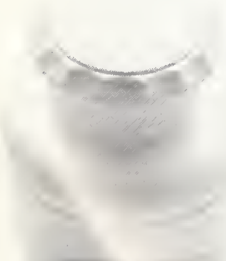

Woman's Auxiliary

One of the most challenging projects introduced by our National Auxiliary president, Mrs. Asher Yaguda, is "VOLUNTEER FRIENDLY VISITORS." Mrs. Yaguda, sponsored by the State Department of Health, presented this type of community service to assist health and welfare agencies in her home state of New Jersey. It has been so well received that she is offering the New Jersey plan for consideration by our 2,900 auxiliaries in the nation. Because of today's mobile society, a change in housing patterns and the ways of family living, a new way of caring for the homebound, chronically ill and socially isolated individual has become necessary.

Mrs. Wallace R. Stacey

Guidelines have been perfected for carefully screening the volunteer applicant. A training course divided into ten class sessions, with 14 hours of instruction, is available to each auxiliary. The educational level of volunteer visitors may range from little formal education to postgraduate training. Ages may vary from 16 years through 79 years.

The Volunteer Friendly Visitor Project is intended only to extend "friendship with understanding" as a supplement to services already offered by the various organizations within one's own State.

The Missouri State Auxiliary stands ready to offer full support to any county auxiliary who may be interested in this worthy project. The partnership of our Auxiliary with community leaders dedicated to the unpaid Volunteer Friendly Visitor Project would be an invaluable asset to any community.

OTIS D. WOLFE, M.D., ***Marshalltown, Iowa***

Medicine's PR Problems

(This paper by Dr. Otis D. Wolfe was first presented during the AMA's 1966 Public Relations Institute last August. MSMA representatives who attended the Institute recommended its publication in MISSOURI MEDICINE *as an example of the challenging and stimulating program in which they participated.)*

THE ATTITUDE of the public toward the American Medical Association could probably be put in two categories. On the one hand are those who think the AMA is bigoted, reactionary, avaricious and self-serving. On the other hand are those who are downright unfriendly.

I've heard it repeated with wearisome regularity that the AMA is a tightly run trade union exercising tyrannical power over its members . . . that the AMA controls medical schools so it can limit the number of physicians to keep competition down and fees up . . . that because of AMA policies this country is not turning out doctors fast enough to keep pace with the growth in population . . . that the AMA spends most of its corporate energies, and money, in politics . . . that the AMA has opposed every progressive public health measure ever conceived.

I thought I had heard them all. But I failed to reckon with the inventiveness of the liberal mentality. There is just no area where the AMA has any immunity to criticism. Who among us could imagine that the riots in the Watts area of Los Angeles a year ago were, in part, the fault of organized medicine.

Edward P. Morgan, who can be heard week nights on a labor-sponsored radio program, turned this trick in a column published in the *AFL-CIO News* July 9.

He takes the position that one of the problems in Watts is that the area has no hospital. The poor of Watts, therefore, must journey to the Los Angeles County Hospital where, according to Mr. Morgan, they are involved in a kind of patient run-around.

Let me quote from his column:

"Who wins the Oscar," he says, "for such miserable performance in public health? Petty politics, patronage, inter-agency jealousies—all play supporting roles. But for the chaotic and wasteful inadequacy of American public health services today, we have largely to thank the heavy in this tragic drama, organized medicine. Doctors, or more accurately, their professional front, the American Medical Association, wanted it that way. The AMA has fought public health programs every inch of the way."

Mr. Morgan, as a clincher, quotes an unnamed doctor as saying that "The AMA's classic approach has been to keep diseases of the poor among the poor." This latter sentence means that the AMA doesn't like poor people.

Now, I know that some physicians like to believe that since the adversaries of the medical profession have finally installed Medicare, their appetite for socializing us has been appeased. Mr. Morgan's allegations—as transparent and incredible as they are—appear to me ample evidence that our antagonists are more gung ho for our collective hide than ever.

We are gathered here to talk about public relations problems of the medical profession. We have some. We'll have more, many more. Our adversaries are numerous. They are organized and disciplined. And they are intent on discrediting the medical profession and destroying our influence and prestige as an organization.

It is my conviction that we have only begun to feel the full force of their attack. Our most vulnerable flank is Public Relations, and it is time that we understand some essential truths about these relations.

How successfully we cope with the problem depends on how well we evaluate ourselves. Just where does the fault lie? In what manner can organized medicine, at any level, project a good or bad image?

Physicians who lament the loudest that the AMA or the State and local societies are projecting poor "images" are likely to be those who know nothing about these organizations, who rarely, if ever, attend any of their meetings and have never served on any of their councils or committees.

If, when the AMA is attacked, they shrink from identification with the Association, it is mainly because they don't have enough knowledge to know whether the charges are true or false. Someone has said that honest doubt is the beginning of wisdom, and the AMA would suffer less if these physicians would at least doubt the charges until they could learn the truth. And the truth is that most of the charges against the AMA are false. A statement is not automatically true because it is published in *Look*, *Harpers*, or *The New Yorker*, or in an editorial in the *St. Louis Post-Dispatch* or the *Louisville Courier-Journal*, or is made by a federal official or a spokesman for a labor union.

It is easy—and too often fashionable—to grouse that the poor image of medicine is the fault of the AMA. We tend to forget—or refuse to acknowledge—that medicine's public relations start with the doctor and his patient. We are inclined to overlook the basic truth that, in the last analysis, an individual's opinion of the medical profession is usually colored by his experience with an individual doctor.

Two years ago at this Public Relations Institute, a non-physician speaker made that point rather forcefully. He recalled that a friend of his, an elderly woman, frantically called her doctor early one morning. Her husband was desperately ill. The physician told her to give him a sedative and bring him to the office anytime before noon. Not long afterward, she held a dead man in her arms, the victim of a heart attack. Although this woman is to the right of Benjamin Harrison in her political philosophy, our speaker said, she's all charged up for socialized medicine because she thinks it would punish doctors.

A member of the AMA staff, who lives in a western suburb of Chicago, told me about a fellow commuter whose wife recently called their physician and asked if he could stop by to look at their daughter. She told him the girl's face was flushed and she had a temperature of 103. The physician, who was making hospital rounds replied: "I don't have to come out and see her. I know what she's got. It's all over town. I'll call the drugstore and have a prescription made up." Some time later, a girl in the doctor's office called the mother and said: "The doctor forgot to ask you how old your daughter is. He has to know because of the prescription." The woman asked to talk to the doctor. The girl replied that he was busy and couldn't be reached. "I want to know," the woman said, "what kind of medicine the doctor is prescribing." "I'm sorry," the girl answered, "we're not allowed to give out that information."

Would it surprise you that this woman's anger has been communicated to all her neighbors? By transference, any mention of the AMA and its legislative problems, or any of its constructive programs, now evokes an unfriendly scowl from both husband and wife.

In all candor, let's ask ourselves how the AMA or any County or State Society, can polish up the image of medicine tarnished by incidents such as these. It takes only a few such episodes to quickly erode any medical society's public relations program.

Let us make several points eminently clear. Whenever one hears tales such as these, he realizes that there are probably unreported voids in the stories. Secondly, any physician knows that given the right circumstances, the same catastrophe could befall him.

On the other hand, whereas the vast majority of physicians are honest, conscientious, dedicated and sympathetic—deeply and warmly devoted to the welfare of their patients—we do have an occasional scoundrel. And that classic cliche—one bad apple can spoil a barrel—is still appropriate. And such lapses in human relations can multiply the public relations problems of all the medical profession, including the State and local societies and the AMA.

These are chinks in the edifice of medicine . . . and the question is: What should be done, what can be done, about them?

There is a disheartening amount of grumbling from patients about overcharging, tiresome reception room waiting, refusal of physicians to make house calls (even in emergencies), impersonal attention, unsympathetic even discourteous receptionists and difficulty in reaching the doctor. More and more people are questioning physicians' competence. A stock joke among comedians is that if you're going to be sick on Wednesday, do it on the golf course.

When only 40% of the people in a nationwide public opinion survey say that doctors treat patients as human beings . . . when less than half the people think doctors are sincerely devoted to their work and try to keep abreast of latest developments in medicine . . . when these are the responses you get when you talk to people, it indicates that we can't afford to be smug about our image as individual physicians. These were among responses to a survey conducted by the Opinion Research Corporation last year.

If only 12% of the people we serve believe that doctors try to keep charges as low as possible, and only 13% say doctors discuss fees in advance, we've got a problem, and we can't make it disappear by ignoring it.

These are public relations problems that belong, fundamentally, to the individual physician, not to the societies or the AMA. An overcharge or a refusal to make a house call in an emergency are acts of individual doctors, not medical societies, and not the AMA. When they occur, they reflect discredit on doctors, not on medical societies or on the AMA. Medical public relations, as we said earlier, start with the doctor and his patient.

Nevertheless, the physician-patient relationship can compound the public relations problems of the medical society and the AMA. The patient who thinks he has been overcharged, for example, is not likely to accept with good cheer a statement from the AMA that physicians' fees have risen less in the past 20 years than other things he now buys, even though it is true. And the patients who can't get a doctor in an emergency doesn't have much sympathy with a news release from the AMA that the physician population has been increasing faster than the general population.

Indeed, he is more apt to become receptive to any proposal that would change the entire system. He is more readily persuaded that socialized medicine would be a good thing because doctors would have to make house calls and the government would fix physicians' fees.

I believe we would all agree that the AMA could do more than it has in the public relations field, and it could probably have done better with some of its efforts in the past. More could be done, I'm sure, toward acquainting the public with facts about medical care costs, about emergency call services and grievance committees, about physicians' fees and about other areas of medical practice where lack of knowledge may breed distrust.

It's discouraging enough that so few laymen know anything at all about the AMA. But it's downright disheartening that so many physicians know so little about their national organization. The fault must lie in part with the AMA and, to a lesser degree, with the State and local societies. But certainly the individual physician has some obligation to inform himself about the activities of his own professional organizations.

However, I believe most of the AMA's public relations problems stem, not so much from what it has or has not done, but from what others have said it has or has not done.

Unfortunately, many members of the Fourth Estate, many college professors, many public officials and many labor leaders interpret freedom of speech and freedom of the press as license to peddle false charges against the AMA, in particular, and the medical profession, in general. None of them is even faintly interested in talking or writing about the scores of worthwhile programs of the Association. It is also a sad fact of life that a multitude of people, including physicians, are willing to believe any and all allegations against the AMA. They entertain the naive theory, I suppose, that the authors would be afraid to utter such statements if they weren't true.

The merchants of falsehood, whose objective is to substitute government coercion for individual responsibility in the field of medicine, pose the AMA's toughest public relations problem.

What can be done about them? What can be done about the author who misuses infant mortality and other vital statistics in a blatant attempt to persuade the American people that medical care in this country is inferior to that in countries where medicine is socialized? What can be done about the author who selectively quotes 20-year-old studies to support his charge that U. S. hospitals are death traps and who willfully ignores current and contradictory evidence? What can be done when the publisher will do no more than acknowledge receipt of a letter documenting in detail the extent of this author's dishonesty?

Twice in the last year or so, University professors have written lengthy diatribes against the AMA which were published in church magazines. No one at the AMA was offered the opportunity to rebut either article before publication. But in both cases, when rebuttals were prepared and submitted to the magazines, they were turned over to the professors. Their replies were published with the AMA rebuttals, giving the authors a chance to repeat earlier false charges and add new ones.

This curious standard of justice and its opposite—a refusal to right a wrong by publishing any kind of reply at all—is somewhat frightening, made more so by the knowledge that leading magazines will publish scurrilous articles against our profession without even a pretense at verifying the truth.

For example, last March, a national magazine with several million circulation published an article purporting to be an objective study of what the author chose to describe as death threats in U. S. hospitals. The author cited a study published in 1961 concerning anesthesia deaths and interpreted the findings as indicating that "33,000 lives are either 'definitely' or 'possibly' lost each year because of anesthesia."

The author of the magazine article did not reveal that the study was made in the period 1947 to 1957 and that, at best, the findings were 10 years out of date. But even worse, the author ignored this significant statement by the physicians who conducted the study (and I quote): "A survey of our mortality data for 1960 and so far in 1961 indicates a paucity of deaths attributable in any way to anesthesia."

That was the character of this article from beginning to end.

That article and others like it fairly illustrate the dimensions of this particular public relations problem which regularly confronts the AMA and the medical societies.

Lord Byron once said: "Adversity is the first path to truth." It may be that we will gain less in fighting adversity than in using it to our advantage.

Those who would destroy the system of medicine would first destroy the image of medicine. If we put our own house in order—if we convince our patients by our deeds that their interests are paramount with us—then the American people will be less and less inclined to believe those who are dedicated to destroying medicine as a free institution.

The hour is late and the tide of battle is against us. The purpose of this panel is to explore better methods of combat for the physician, the local society and the AMA.

We must first of all recognize the opposition, his purpose and his method. Secondly, we must appraise our deficiencies and correct them. Finally, we must all be headed in the same direction with a unity of purpose.

And the time for this, ladies and gentlemen, is NOW.

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THIS CONFERENCE WILL BE OF INTEREST TO ALL PHYSICIANS. The program is presented by leaders of medical thought in all fields of medical activity. It is designed to interest the generalist and specialist alike. THE OUTSTANDING LECTURE PROGRAM IS PLANNED TO KEEP US ABREAST OF SCIENTIFIC DEVELOPMENTS IN MEDICINE. In addition certain sessions will take cognizance of happenings in the political and social arena which are molding changes in the practice of medicine. All physicians, regardless of their field of interest, will find this program to be informative and useful.

For program or registration information address:

Clinical Conference Committee
Chicago Medical Society
310 South Michigan
Chicago, Illinois 60604

EDITORIALS

A TIME TO BE BORN . . . AND TO BE A CHILD

Did you ever stop to think that this is a mighty tough age for a child to try to be a child? This thought has occurred to me before, as I noted today's various pressures which did not confront me when I was a tadpole. However, I was never quite as forcefully reminded as when I picked up a catalog from among our mail at home. This catalog was devoted to children's playthings and its central theme was that parents were guilty of neglect of their offspring if they failed to initiate a program of planned play as soon as the umbilical cord was tied. The catalog was cleverly named "A Head Start for Your Child"; a title aimed to set aglow any incipient PTA member.

The first page of the catalog was called "Don't Waste Infancy." Here was a pitch designed to sell a baby-see mirror, touch perception cylinders, a special teething machine and even an LP record of highly selected slumber songs. Without question, these lullabys were chosen at great effort by the Infancy ad hoc Committee on Sleep.

From there we went through Touch, Tasting and Feeling to Handling, Fitting and Sorting, thence to Walking, Climbing and Pulling. Obviously the old spoon I teethed on, the stew pan I beat hell out of with the spoon and the wooly dog which bore me during my first halting steps, were disgracefully barbarian. Nobody planned them.

And that's only the beginning, folks. From that point children must begin learning Spanish when fresh out of diapers, although I have never yet talked to a kid who wouldn't freely agree that he looked back on it as an infernal waste of time. They must study interpersonal relationships when half those in high school can't even spell interpersonal relationships. They must delve into rings and sequences of numbers when the question, "If six people have nine apples each, how many do they have all together?," will be met only with blank stares.

This is not to say that educational processes cannot be improved upon, but it seems rather silly to assume that all the wonders of childhood can be satisfied, best and only, by a bunch of adults who can figure it all out and come up with ridiculous merchandise at rather exorbitant prices (that teething ring costs $3.50).

If we only stop to think, we adults will blush and admit that the most elemental surroundings are enough to bring the budding child into full bloom —so long as the child is bolstered with kindness and consideration and love. The imagination of a happy child is beyond the comprehension of us all, and it needs few stage props. That beautiful paragraph from the Lounsbury will puts this all so well:

> I devise to children the banks of the brooks and the golden sands beneath the waters thereof, and the odors of the willows that dip therein, and the white clouds that float high over the giant trees. And I leave to them the long days to be merry in, in a thousand ways, and the night and the moon, and the train of the Milky Way to wonder at.

Yes, we could do nicely with less planned childhood, but a little more planning for parenthood might not be so bad.

WILFRED E. WOOLDRIDGE, M.D.
Greene County Medical Society Bulletin

EXCELLENCE IN MEDICAL PRACTICE

The pursuit of excellence is of no interest to some of our number who have long ago given up the struggle and are content to measure their success in terms of a healthy bank account. Most physicians, however, have a deep concern for their work and want to do it better. But how? How do we recognize excellence today and how do we achieve it?

John W. Gardner[1, 2] approaches these questions in a most refreshing manner from the view of an educator. He observes that life is like a pyramid and that everyone cannot hope to be at the apex. He states, "In science one finds a relatively thin line of innovative individuals working at the frontier of discovery and behind them a vast army of competent people doing routine work." He finds no shame in this. To the contrary, he feels that excellence lies in the maximum development of the individual's potential regardless of that potential. He recognizes that we are *not* created equal in spite of the Declaration of Independence. As applied to Medicine, Gardner's views might be interpreted to mean that there are many levels of practice and there is honor in doing well what one does.

The first step in the pursuit of excellence is the painful process of self-evaluation. This cannot be done in the midst of a busy and all-consuming practice. It is necessary to get away for a day or two of serious thought about self and work. A periodic retreat is as important to the doctor as it is to the clergyman.

Interesting insights will often flow from such an experience. However, self-evaluation is of no value unless it leads to constructive rededication. Usually we know what we must do but lack the courage or the strength or the motivation to do it.

The path to excellence is rocky, hard and strewn with obstacles, but there are some beacons to guide us. We offer the following as having stood the test of time and long tradition:

(1) Treat each patient with courtesy and compassion. (Or not at all.)

(2) Never get too busy to do an adequate examination.

(3) Take time to restock the storehouse of knowledge and rekindle the fires of enthusiasm.

Impossible, you say? That's why they call it the *practice* of medicine.

References

1. Gardner, John W.: Excellence: Can We Be Equal and Excellent Too. Harper & Brothers, 1961.
2. Gardner, John W.: Self Renewal: The Individual and the Innovative Society. Harper & Brothers, 1963.

SHERMAN M. STEINZEIG
Greater Kansas City Medical Bulletin

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Socity

The annual dinner and installation of officers of the Buchanan County Medical Society were held in St. Joseph on December 3. Seventy-three physicians and their ladies attended the dinner, installation ceremonies and the dance, which followed.

Dr. William Redmond, President of the Society for the past year, presided and served as installing officer. New officers installed were: Dr. Irwin I. Rosenthal, President; Dr. Berwyn H. Moen, President-Elect; Dr. John L. Mothershead, Vice-President; Dr. Maxwell Day, Secretary; Dr. Robert W. Kieber, Treasurer for the 14th consecutive year; Dr. Francis J. Berney, Censor; Drs. John N. Martin and Richard V. Riddell, MSMA Delegates; Drs. Allen I. Herman, Thompson E. Potter and William B. Rost, Alternate Delegates; Dr. Carlyn M. Kline, Committee on Public Policy; Dr. Paul M. Beck, Trustee; Dr. Redmond, Executive Secretary Committee.

Arrangements for the event were made by Dr. Charles R. Willman, Chairman, and Drs. Richard O. Craig and R. Philip Acuff, members of the program committee. Mrs. Willman, president of the Auxiliary to the Society, and members of the Auxiliary worked with the program committee on the planning and arrangements. They also provided the table decorations for the occasion.

Dr. Redmond announced that Dr. Michael Ellis DeBakey of Houston, Texas, will be the guest speaker at the next meeting at 7:30 pm on January 4. The meeting will be preceded by dinner at 6:30 pm.

The Buchanan County Medical Society extends an invitation to members of the Missouri State Medical Association to attend this meeting. Only cost will be for the dinner. Those interested in attending should make reservations with the Medical Society.

Maxwell Day, M.D., *Secretary*

Grand River Medical Society

Thirty-five members and guests of the Grand River Medical Society and Auxiliary met in Chillicothe on November 10. Guests included Mrs. Wallace R. Stacey, president of the Women's Auxiliary to the Missouri State Medical Association, and Mrs. John M. Williams, president-elect of the Auxiliary. Mrs. Stacey presented the program for the Auxiliary.

Dr. Donald Dickhaus presented the scientific program on "Chronic Obstructed Lung Disease." The program was very practical and well received.

Grand River Medical Society held its Christmas Party on December 8.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

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Lafayette-Ray County Medical Society

The November meeting of the Lafayette-Ray Medical Society was held on November 8 at Lexington. Nine members were present for the dinner meeting. Routine business was discussed by President Charles T. Riley after the dinner. No program was planned for this meeting.

Wayne Boydston, M.D., *Secretary*

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FOR SALE OR LEASE—Six room office, two rooms of which are furnished bedrooms, can be used for treatment or examining room. Furniture, fixtures, equipment, case records and treatment included. Am 87 years old and want to retire and need replacement. Only M.D. in town. Wonderful opportunity for a middle-aged or young M.D. willing to work in a prosperous farming community. Territory is 12 to 20 miles in each direction. Contact D. E. Blacklock, M.D., King City, Missouri.

WANTED—General Practitioner to associate in Group Practice. Modern office facilities and accredited hospital. Adequate guaranteed income to start and increases leading to full partnership. Contact Eugene B. Robichaux, M.D., Excelsior Springs, Mo.

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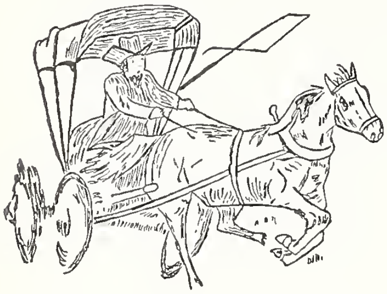

FORTY YEARS AGO

Dr. Edwin C. Ernst, St. Louis, was elected President of the Radiological Society of North America at the annual meeting in Milwaukee on December 1-3.

St. Luke's Hospital, St. Louis, has just completed the addition of a clinic pavilion to the hospital, the gift of Mr. Edward Mallinckrodt, president of the board of managers of the hospital.

H. M. Stunz, proprietor of the Melton Laboratories in Kansas City, makers of fake medicines, was convicted on November 20 of using the mails to defraud. He was sentenced to two years in the penitentiary and fined $10,000 by Judge Merrill E. Otis. This is the result of the federal government's campaign against quack medicine makers in Kansas City. It is to be followed by vigorous prosecution of other concerns. In discussing the case before passing sentence, Judge Otis criticized those newspapers which permitted insertion of advertisements of products that generally are regarded as useless and having little merit.

TWENTY-FIVE YEARS AGO

David L. Edsall, M.D., Tyron, N. C., chairman, and Tracy J. Putnam, M.D., New York, vice-chairman report in The Journal *of the American Medical Association* for November 29 that the National Committee for Resettlement of Foreign Physicians "has succeeded in assisting and placing between 1,200 and 1,500 emigres in internship or practice during the two and one-half years of its existence; no serious complaints or maladjustments have occurred among 95 to 98% of such placements."

The nation is at war. The Congress has passed an amendment to the Selective Service Act which will call for registration of every man up to the age of 65 and which will place all men under 45 years of age subject to service at the order of the Selective Service Boards. For 2,009 counties in the United States, lists have been prepared indicating physicians who are engaged in necessary civilian projects, public health services or educational activities from which they cannot be spared. Shortly, the rest of the counties will have such lists available.

The annual pilgrimage of the St. Louis Medical Society to the grave of William Beaumont was made on November 11. Dr. Arno B. Luckhardt, Chicago, professor of physiology in the University of Chicago, spoke on "Dr. William Beaumont and the Medical Epic of the Northwest Territory."

TEN YEARS AGO

Until 1952, psittacosis was considered a relatively rare illness in the United States. The average number of cases reported in the five years preceding 1952 was about 30 per year for the entire United States. This figure rose rapidly in 1952 to 135 and, since then, has continued to rise rapidly. Psittacosis varies widely in its severity and in the character of its manifestations. In epidemics occurring before the advent of the antibiotics, a mortality rate of 20% has been reported. Of 278 cases reported in the United States in 1955, three were fatal.

Public Law 569, providing medical care for the dependents of the uniformed personnel of our country went into effect December 7, 1956.

Many birthday cards and remembrances were received by J. Frank Harrison, M.D., Mexico, on his 85th birthday on November 12.—More than 250 friends attended a dinner on November 19 at the Eldon Masonic Temple honoring W. Logan Allee, M.D., Eldon.—Sister Mary Lois, a member of the Jackson County Medical Society, left the United States on November 21 for medical mission work in Korea.

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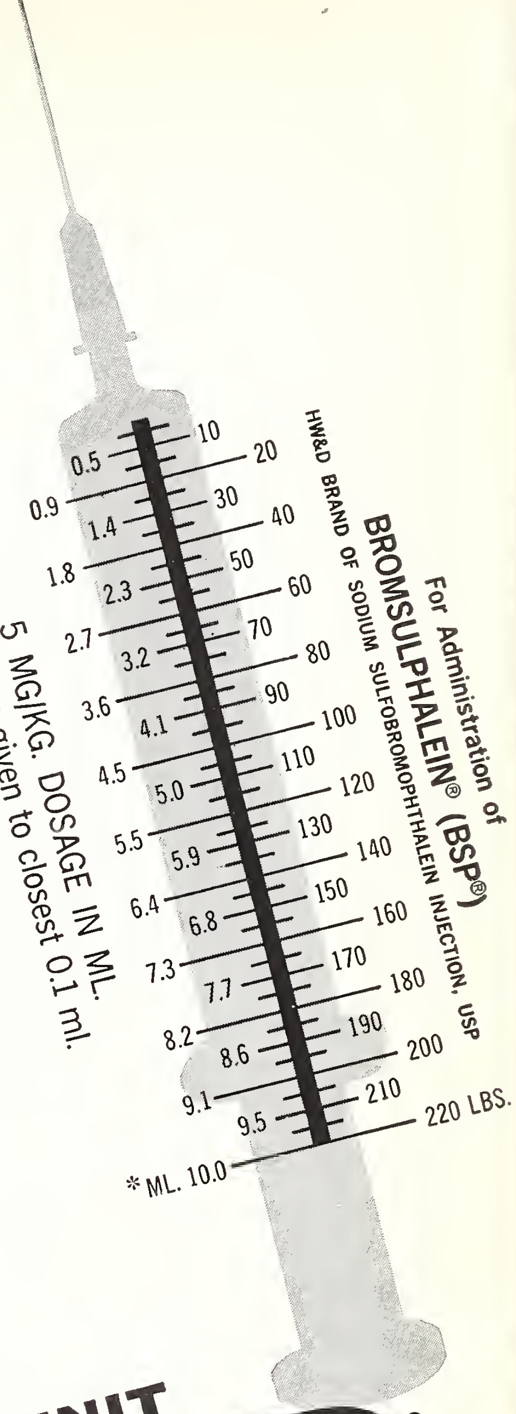
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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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MSMA Council Renews 'Medicare' Contract

The Council of the Missouri State Medical Association has authorized another one-year renewal of the contract covering the original "medicare" program in Missouri. This is the Office of Dependent's Medical Care (ODMC) program which provides medical and health care for dependents of personnel in the nation's uniformed forces. Tom O'Brien, MSMA Executive Assistant, reported to the Council at its December 10-11 meeting and explained that during the past year the program has been expanded to include out-patient care for dependents, care for handicapped dependents, extended inpatient care for dependents and certain benefits for retired military personnel and their dependents.

Mr. O'Brien was authorized to negotiate a new contract with ODMC for 1967, consulting with such members of the ODMC physicians' review committee as might be of assistance. The Council also instructed the Executive Staff to initiate negotiations as soon as possible on a 1968 ODMC contract based on a "usual, customary and reasonable" fee concept. This would be proposed with the understanding that MSMA would guarantee the review of any physician charges which might be considered unreasonable.

Dr. William A. Knight, Jr., Chairman of the Committee on Medical Education and Hospitals, discussed his Committee's work on the problem of temporary licensure for non-citizen physicians in Missouri. After lengthy discussion, the Council voted to recommend that the State Board of Registration for the Healing Arts issue temporary licenses to non-citizen physicians who are serving in hospitals approved by the Board, in state maintained hospitals and in those with approved training programs. The Council recommended that: non-citizen temporary licensees should meet all other licensure qualifications, including the successful completion of the regular written examination; should have completed at least an approved internship or its equivalent; and should be examined by a special board of examiners selected by the Board of Registration for the Healing Arts. The Council suggested that the present system of granting temporary medical licenses be continued until July 1, 1967.

Dr. Vernon E. Wilson, Dean of the University of Missouri School of Medicine, reported on the Regional Medical Programs which are being developed in Missouri and surrounding states. He noted that the Missouri plan is considered a model by experts in the field. He also urged the Council and the Association to give careful study to the Report of the Citizens Commission on Graduate Medical Education (the Millis report) and to consider its possible impact on the practice of medicine.

Missouri's nursing home situation remains far from satisfactory, according to Dr. M. L. Gentry of the State Division of Health. With the extended care facilities provision of medicare becoming effective January 1, 1967, only 57 nursing homes and hospitals had applied for government certification. This would indicate that the available bed space in extended care facilities will fall far short of anticipated needs, said Doctor Gentry.

A report on Disaster Medical Care was presented by the Committee chairman, Dr. George L. Watkins. The Council approved his recommendations that (1) members of the Committee be selected on the basis of their interest in the subject and their expressed willingness to work actively in disaster medical care programs in their home areas, and (2) county medical societies be encouraged to devote one program a year to disaster medical care.

Dr. Flavius G. Pernoud, chairman of the Eye Health Committee, recommended MSMA approval of a statewide Amblyopia Feasibility Field Research Study by the State Division of Health. He also asked for approval of a pilot Eye Clinic Program to be established for inpatients at the Fulton State Hospital. Both proposals were approved by the Council.

During the two-day meeting, the Council also received reports from the Committees on Maternal Welfare, Cancer, Infant and Child Care, Tuberculosis, Alcoholism, Legislative Matters and the AMA Delegates.

Council members attending the meeting were:

David N. Kerr, M.D., Chairman, 3rd District
Doyle C. McCraw, M.D., Vice-Chairman, 8th District
Joseph L. Fisher, M.D., 1st District
Lysle M. Bach, M.D., 2nd District
Robert A. Mayer, M.D., 4th District
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Rolla B. Wray, M.D., 6th District
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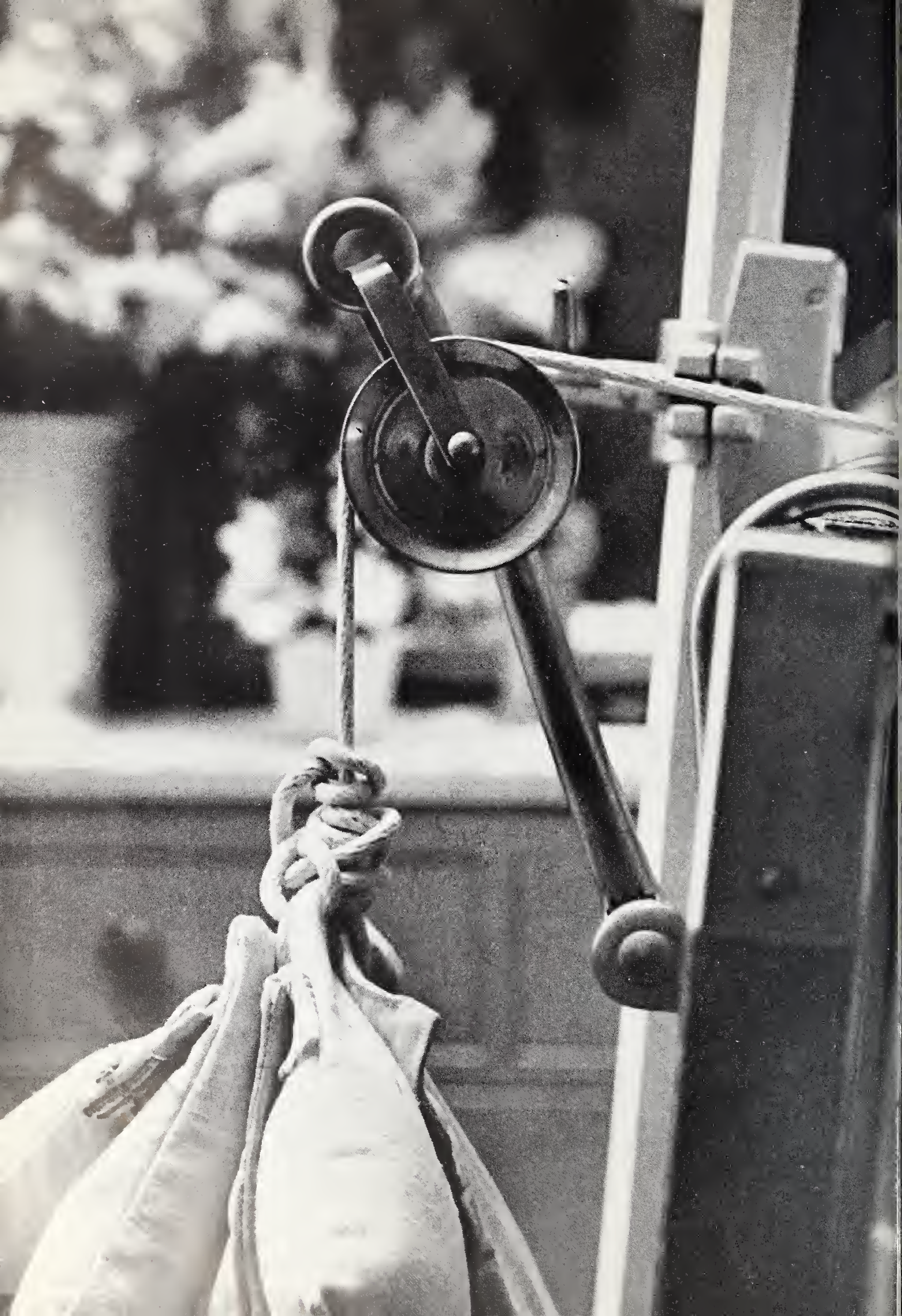

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Special Report

Missouri Regional Medical Program

Doctor Wakerlin is Director of the Missouri Regional Medical Program for Heart Disease, Cancer, Stroke and Related Diseases. This report was delivered originally at the annual Conference on Cancer Detection which was held at the Lake of the Ozarks.

REGIONAL medical programs are not new since cooperative medical arrangements have been tried on a modest basis in the United States for at least two decades. One example is the cooperative effort in medical care and postgraduate medical education established some years ago between a Boston medical center and certain hospitals in Maine under the stimulus of the Bingham Associates fund.[1] Another cooperative project involved New York University College of Medicine and the community hospital of Hunterdon County, New Jersey.[2] Unfortunately, the latter project was discontinued several years ago. Other examples emphasizing postgraduate medical education are the regional television programs with two-way telephone communication sponsored by Albany Medical College, the University of Utah School of Medicine, the University of Pittsburgh School of Medicine and other centers.

However, *broadly based* regional medical program planning for heart disease, cancer, stroke and related diseases is essentially new and, therefore, offers a tremendous challenge and opportunity. Fortunately, the "Heart Disease, Cancer and Stroke Amendments of 1965" or Public Law 89-239, in providing for cooperative arrangements appropriate to the needs, resources and patterns of a region, emphasizes the voluntary nature of the proposed regional medical programs, the primacy of local initiative, full utilization of existing facilities and preservation of the present system of private medical practice. Indeed, regional medical programs cannot succeed or even begin without the active cooperation and participation of physicians in private practice. Furthermore, the prime objective of regional medical programs in developing maximal cooperation among all professional organizations, institutions and agencies concerned with health is to assist family physicians in rendering optimal medical care to their patients. Research and demonstrations in medical care and pilot programs and projects in professional education, community service and public education might be considered for this purpose.

In order to receive Regional Medical Program financial support, such programs and projects must be new or present unique features rather than involve expansion of existing activities and services. Priority will also be given to projects involving (a) cooperative arrangements among multiple institutions and/or agencies, (b) more effective utilization of manpower, (c) continuing education, (d) utilization of unusual regional resources and (e) potential for benefiting larger programs. The number of particular programs and projects will necessarily be limited and, assuming their success, assurance must be given that the community will take over support at the end of a three year period.

Stated Purposes of Public Law 89-239

"(a) Through grants, to encourage and assist in the establishment of regional cooperative arrangements among medical schools, research institutions, and hospitals for research and training (including continuing education) and for related demonstrations of patient care in the fields of heart disease, cancer, stroke, and related diseases;

"(b) To afford to the medical profession and the medical institutions of the Nation, through such cooperative arrangements, the opportunity of making available to their patients the latest advances in the diagnosis and treatment of these diseases; and

"(c) By these means, to improve generally the health manpower and facilities available to the Nation, and to accomplish these ends without interfering with the patterns, or the methods of financing, of patient care or professional practice, or with the administration of hospitals, and in cooperation with practicing physicians, medical center officials, hospital administrators, and representatives from appropriate voluntary health agencies."

The Congress appropriated $25,000,000 for Regional Medical Programs for the fiscal year, July 1, 1965-June 30, 1966, and $45,000,000 for July 1, 1966-June 30, 1967. Each of these appropriations is available for six months beyond the given fiscal year. To date, 17 planning grants have been awarded for Regional Medical Programs for a total of approximately $6,640,000, or an average award of $390,580. Missouri was one of the five Regional Medical Programs (RMP) first approved by the National Advisory Council for RMP and funded by the Division of Regional Medical Programs of the USPHS. The Missouri RMP award is for a three-year period (July 1, 1966-June 30, 1969), at approximately $400,000 per year. By the end of the 1966 calendar year, planning grant applications for an additional 15-20 Regional Medical Programs were expected to be approved and funded.

Governor Hearnes declared the State of Missouri a region under PL89-239 and current planning for Missouri includes all of the state except metropolitan St. Louis which is planning a separate regional medical program. Planning and pilot programming are proceeding simultaneously in Missouri since the Division of Regional Medical Programs is sympathetic toward such planning and implementation in regions which are already experienced in cooperative efforts with reference to medical education and medical care. Indeed, there is the possibility that the Division of Regional Medical Programs may select the Kansas and the Missouri Regional Medical Programs jointly as one of the three model programs for the country, with the expectation that Kansas and Missouri will serve as an outstanding example of interregional cooperation.

Organization

In accordance with PL89-239, the governing body of the Missouri Regional Medical Program responsible for recommendations to the Division of Regional Medical Programs, is an Advisory Council of 12 members appointed by the Governor and chaired by Mr. Nathan J. Stark of Kansas City, Missouri. The other members are: Sister Mary Austin, Joplin; Hector W. Benoit, M.D., Kansas City; former State Senator Paul M. Berra, St. Louis; Mrs. Louise Bryant, Kansas City; John O. Carr, D.O., Marceline; Chester L. Clark, M.D., Trenton; State Representative Donald Hancock, Doniphan; Daniel B. Landau, M.D., Hannibal; James P. Murphy, M.D., St. Louis; Walter W. Tillman, M.D., Springfield; and Mr. William C. Whitlow, Fulton. Council membership includes (in addition to the M.D. and D.O. members) one state legislator and a former state senator, a lawyer, a business executive, a hospital administrator and a sociologist. Reporting to the Advisory Council are a Scientific Review Subcommittee and a Liaison Subcommittee. The former includes the deans of the three medical schools of Missouri, the deans of the two schools of osteopathy, and the directors of the Missouri Division of Welfare, Missouri Division of Mental Diseases and the Chronic Disease Section of the Missouri Division of Health. The Scientific Review Subcommittee recommends candidates for membership on the Advisory Council to the Governor and advises the Council relative to scientific problems, including the scientific merit of pilot projects and other proposals. The Liaison Subcommittee is composed of representatives of 20 state organizations in the health field, including appropriate professional societies, hospital associations and voluntary health agencies. The Liaison Subcommittee serves as a forum of discussion in the development of policy by the Council, offers comments to the Council on proposed pilot projects and serves as a two-way medium of communication between the member organizations of the Subcommittee and the Missouri Regional Medical Program.

The Kansas and Missouri Regional Medical Programs are cooperating in the planning and implementation of programs on statewide bases and particularly with reference to the Kansas City area. Local responsibility for this area rests with a Metropolitan Coordinating Committee consisting of six members and six consultants appointed by the Chairmen of the Advisory Councils of the two state Programs. This Committee reports to the Advisory Councils of both the Missouri Regional Medical Program and the Kansas Regional Medical Program, and encourages cooperation and avoidance of duplication among institutions, hospitals and other health agencies and groups of the Kansas City area.

The University of Missouri School of Medicine is the applicant institution for the Missouri Regional Medical Program, with Dean Vernon E. Wilson, M.D., as the Program Coordinator. The professional staff for the Missouri Program consists of George E. Wakerlin, M.D., Ph.D., Director; Earl M. Simmons, M.D., Associate Director for Stroke; Galen B. Cook, M.D., Associate Director for Cancer; and Fred D. Roberts, Assistant Director for Administration. The staff of the Program Development and Evaluation Center of the School of Medicine, directed by David J. Jones, M.D., is concerned with evaluation of the effectiveness of the Missouri Program. The Institute of Community Studies, Inc., of Kansas City (Paul H. Bowman, Ph.D., Executive Director) staffs the Missouri portion of the joint Kansas-Missouri Program for the Kansas City area.

The Missouri Program also expects to use the consultant services of experts in economics, sociology, population research, education, systems analyses, communications and other fields.

Data Collection and Collation

One of our first steps in planning involves the collection, collation and analysis of current medical resources in Missouri. These resources include: (a) Health profession personnel—physicians, osteopathic physicians, dentists, nurses, physical therapists, occupational therapists, technologists and other health professions in the state—their number and distribution, type of practice, age and hospital affiliation; (b) Hospital facilities; (c) Outpatient services and facilities; (d) Ambulance services; (e) Current hospital council planning, welfare council planning, etc., pertinent to heart disease, cancer, stroke and related diseases; (f) Continuing professional and public education programs emphasizing heart disease, cancer, stroke and related diseases; (g) Research programs concerned with heart disease, cancer, stroke and related diseases.

In order to interpret these data in terms of patient needs, appropriate morbidity and mortality figures for heart disease, cancer, stroke and related diseases will be obtained, with particular attention to those patients who might benefit from better utilization of new medical knowledge and facilities. Data on population distribution in relation to availability of medical and other health profession personnel and services also are desirable, as well as information on patient flow.

These studies should not only delineate needs but determine strengths and desirable approaches toward maximizing the quality of medical care for patients with heart disease, cancer, stroke and related diseases. Moreover, the data will be essential to later evaluation of the effectiveness of the Missouri Regional Medical Program.

Program Planning

While resources and needs are being determined, program plans for the region will be developed and approved pilot projects implemented.

In keeping with the objectives of PL89-239, the Missouri Regional Medical Program will utilize research and demonstrations in patient care, professional education and training, community services and public education in an organized approach to the prevention, detection, diagnosis and management of heart disease, cancer, stroke and related diseases. Systems design and analysis will be utilized wherever appropriate. Every effort will be made to facilitate transmission of new medical knowledge to the practicing physician and to assist him whenever and wherever needed. Ultimately, the Missouri Regional Medical Program looks forward to the time when all citizens of this state, regardless of location, will receive medical care that is best suited to their psychological, physical and economic situation. As far as practicable, it probably is desirable that such care be available as close to the patient's home surroundings as possible. Up to the present time, five areas of the state have indicated their interest in health care planning and programming in cooperation with the Missouri RMP, and undoubtedly groups in other areas of the state will soon express a similar interest.

The broad program planning takes into consideration certain specific objectives.

(1) **Cooperation.** In addition to the institutions, organizations and individuals now cooperating in the Missouri Regional Medical Program, the understanding and cooperation of all other potential contributors to the success of the Program will be sought. This particularly applies to community hospitals of the state.

(2) **Research.** The Division of Regional Medical Programs has indicated its willingness to support applied and operational research which will further the objectives of Regional Medical Programs. Accordingly, it is hoped that a number of applied research pilot projects recently submitted by the Missouri Regional Program will be approved by the National Advisory Council for Regional Medical Programs and the Surgeon-General of the USPHS.

(3) **Postgraduate Education.** Postgraduate education for the health professions is one of the keystones of the Regional Medical Program concept and will be given major emphasis in Missouri.

A system of interchange of interns and residents between the University of Missouri Medical Center and appropriate community hospitals of the state might be a possible consideration in this regard. A plan is now in development which would enable practicing physicians to call the Medical Center, give a diagnosis of current interest and, in a few minutes, receive five recent pertinent references in journals readily available in the average community hospital library. Other computer services from the Medical Center will also be made available to physicians of the state.

Postgraduate programs for nurses and members of the other health professions must parallel in significance the programs made available to physicians.

Television, radio and other electronic facilities should be used wherever appropriate.

Consideration should be given to the preparation of programmed instruction courses on various aspects of heart disease, cancer, stroke and related diseases, preferably in collaboration with other Regional Medical Programs.

(4) **Health Career Recruitment.** As a part of the effort to meet Missouri's manpower needs, present efforts at recruitment for the health professions in Missouri must be strengthened and expanded.

(5) **Community Programs.** Serious consideration must be given to the development of screening programs for heart disease, cancer, stroke and related diseases. The present rheumatic fever prevention program in Missouri should be strengthened and expanded, inclusive of its case registry. Several model intensive and coronary care units should be established in appropriate community hospitals, with a view to later expansion to other community hospitals. Likewise, several demonstration rehabilitation units should be developed in suitable community hospitals. Study of prediction factors in relation to the efficacy of stroke rehabilitation might well be a part of the research program of such units. The case and tissue registries for cancer now being conducted by at least 16 hospitals in the state perhaps could be expanded and strengthened.

Ambulance services might be expanded and strengthened, particularly in view of the recent survey by Dr. Marjorie Dale of the University of Missouri[3] which disclosed that casualty transportation in the non-metropolitan counties of the state falls considerably short of desirable standards.

Consideration should also be given to strengthening homemaker, home health aide and other home care services in the state.

Other community programs to be strengthened or implemented include school health, better control of congestive heart failure following patient discharge from the hospital and a broadly based stroke program. In relation to cerebrovascular disease programs, consideration could be given to the prevention of strokes by early identification of the transient ischemic attack and of individuals at high risk for stroke. Appropriate lay education might well be helpful in promoting earlier visits to the physician by potential candidates for stroke.

Consideration could be given to the possible establishment of one or more demonstration community health centers in the state.

(6) **Public Education and Information.** As with other Regional Medical Program projects, the full cooperation and active participation of official and voluntary agencies already active in this field must be sought and obtained at the earliest opportunity. Duplication of effort must be avoided. The public education-information program should utilize all of the media available and should emphasize the preventive aspects of disease. The seven danger signals of early cancer have been publicized for more than 20 years, and yet one-third of current cancer deaths could be prevented if the signals were better known and heeded earlier. Further emphasis must be given to self-examination of the breast, the Papanicolaou smear and rectal and sigmoidoscopic examination. The principles of rheumatic fever prophylaxis have been known for two decades and yet less than one-fifth of teenagers and young adults, who should be, are on secondary prophylaxis.

Medical science has recently made available information on a number of factors which increase the risk of coronary heart disease and heart attack. Reduction of certain of these risk factors by members of the general public has more potential for reducing morbidity and mortality in the United States than any other public health measure presently available. This is particularly true with regard to reduction of dietary saturated fat, elimination of cigarette smoking, increase in physical activity and treatment of high blood pressure.

Consideration should be given to publicizing the desirability of an annual health examination at least for adults over 40. And finally, the desirability of a pilot project involving the training of limited lay groups in cardiopulmonary resuscitation might well be considered.

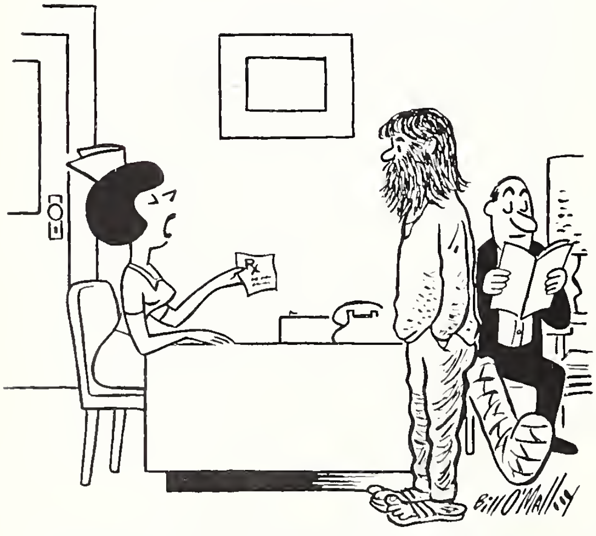
Inter-regional Cooperation

Missouri borders on eight states (Iowa, Illinois, Kentucky, Tennessee, Arkansas, Oklahoma, Kansas and Nebraska) and contacts have been established with Iowa, Nebraska and Oklahoma, as well as with Colorado. The Missouri program looks forward, also, to cooperative activities with the St. Louis regional program. And, as mentioned above, Missouri and Kansas are already engaged in joint regional medical program planning with regard to metropolitan Kansas City, as well as on statewide bases.

The Missouri Regional Medical Program recently initiated an informal exchange of information with other regional medical programs. Beginning in January, 1967, there will be periodic meetings of volunteer and staff leaders of regional medical programs.

Informing the Health Professions and Others

Seminars, conferences and meetings will be held to inform physicians and other health professions and institutions, agencies and laymen who have a particular interest in health, with reference to the Missouri Regional Medical Program. This means 5,500 physicians, 1,200 osteopathic physicians, 9,200 nurses, members of other health professions, 173 hospitals, as well as a number of voluntary health agencies, official health agencies and other groups. In part, this can be accomplished through a place on the program of meetings of appropriate professional and lay organizations within the state and through explanatory articles in their journals.



"Doctor says you can get this prescription filled anywhere they sell soaps or detergents."

At appropriate times, the mass media of communication should be used. A quarterly newsletter may be desirable. Certainly an annual report should be sent to each health professional and organization in the state.

Future of the Program

A cooperative program, similar in some respects to that envisioned for regional medical programs, has been operative in agriculture for a number of years through experiment stations, model farms and extension services. Certain of their experiences may be helpful to us. In any event, full development of the Missouri Regional Medical Program in an environment of continuing innovation, adaptation and modification will require a number of years. Certainly we are stimulated to achieve maximum progress by the possible designation of Kansas-Missouri as one of three initial model programs for the country. Within three years or less, built-in evaluation mechanisms should begin to tell us how successful the Missouri Program has been in: (a) stimulating increased cooperation of all health oriented agencies, organizations, professions and individuals in the state; (b) facilitating application of new medical knowledge; and (c) effecting progress toward optimal medical care.

Since the Missouri Regional Medical Program is intended to assist practicing physicians in offering the best quality medical care to their patients under the prevailing system of medical practice, the understanding, cooperation and active support of Missouri physicians, as well as all other groups and individuals concerned with health, is anticipated. With such support we are confident the program can succeed.

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1. Curran, J. A.: Postgraduate Medical Education in New England. The Postgraduate Medical Journal 38:373-82, 1962.

2. de la Chapelle, Clarence E. and Jensen, Frode: A Mission in Action: The Story of the Regional Hospital Plan of New York University. New York University Press, 1964.

3. Dale, Marjorie: Casualty Care and Transportation in Non-Metropolitan Missouri. Missouri Medicine 63:352-358, 1966.

Missouri Lab Technologists Learn Disease Control

Eight laboratory technologists from various hospitals in Missouri were sent to the Communicable Disease Center in Atlanta, Georgia, during 1966 to learn the techniques now being employed by the U. S. Heart Disease Control Program in the control of streptococcal infections and their complicating sequelae, rheumatic fever and rheumatic heart disease, according to Dr. E. R. Spurrier.

Dr. Spurrier, Laboratory Director of the Missouri Division of Health, said that the technologists have been able to make the service available at the local level in their own communities, which include St. Louis, Kansas City, Springfield and St. Joseph.

The Missouri Division of Health Laboratories and the Heart Disease Control Program of the U. S. Public Health Service have long been interested in the control of these diseases. The laboratories have been examining nose and throat specimens by culture and flourescent antibody techniques to isolate and group streptococci.

Training local laboratory technologists has furthered the Division of Health's program of encouraging the performance of these examinations in communities where private laboratory facilities exist and in inducing physicians to utilize their local facilities, noted Dr. Spurrier.

The training program was made with the support from grant funds.

MSMA Council (Cont'd)

E. A. Stricker, M.D., 9th District
W. D. English, M.D., 10th District
Byron M. Stuart, M.D., MSMA President
Hector W. Benoit, Jr., M.D., MSMA President-Elect
John I. Matthews, M.D., MSMA Secretary
Walter T. Gunn, M.D., MSMA Treasurer

The next meeting of the Council will be held February 11 and 12, 1967.

This Council report covers only the highlights of the December meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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Norinyl® tablets
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inhibition of ovulation by means of 2 time-proved hormonal agents

production of a cervical mucus hostile to sperm motility and vitality

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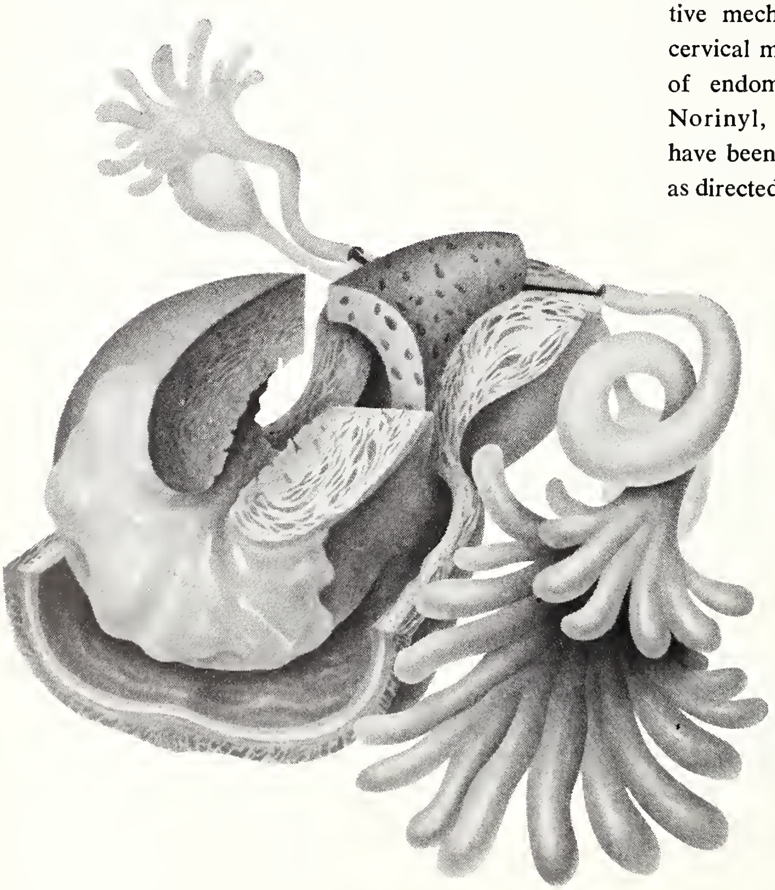
Norinyl provides multiple action for maximum assurance of success. It does not depend on ovulation inhibition alone for contraceptive effectiveness. The mechanism of action of combined hormonal therapy results in ovulation inhibition reinforced by other protective mechanisms, including a hostile cervical mucus[1-13] and an acceleration of endometrial changes.[1-3,7-16] With Norinyl, no unplanned pregnancies have been reported to date when used as directed.



Preliminary Program

109th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Chase Hotel, St. Louis **April 6-9, 1967**

Thursday, April 6

1:00 PM Registration of Delegates.
3:30 PM House of Delegates Meeting, opening session.
5:45 PM Reference Committee meetings.

Friday, April 7

8:00 AM Registration.

9:00 AM *Tax Dollars and Medical Care.* (Sponsored by MSMA Committee on Aging.)
Moderator: Stanley S. Peterson, M.D., Springfield.
Panel Participants:
Arthur E. Hess, Director, Bureau of Health Insurance, Department of Health, Education and Welfare, Baltimore, Md.
F. J. L. Blasingame, M.D., Executive Vice President, American Medical Association, Chicago, Ill.
(Third speaker to be announced.)

10:30 AM Intermission to view exhibits.

11:00 AM *Diagnosis and Treatment of Cutaneous Malignancies.*
Moderator: Wilfred E. Wooldridge, M.D., Springfield.
1. *The Diagnosis of Cutaneous Malignancies,* Philip C. Anderson, M.D., Columbia.
2. *Electrodesiccation and Curettage of Basal and Squamous Skin Cancer,* Philip C. Anderson, M.D., Columbia.
3. *Surgery of Cutaneous Malignancies,* James Clawson, M.D., Springfield.
4. *A Resumé of the Mohs Technique of Chemosurgery in Treatment of Cutaneous Cancer,* G. Thomas Jansen, M.D., Little Rock, Ark.
5. *Radiation Treatment of Basal and Squamous Cell Skin Cancer,* Wilfred E. Wooldridge, M.D., Springfield.

11:00 AM *Controversy in the Management of the Depressed Patient.* (Sponsored by the Missouri Academy of Psychiatry.)
Moderator: James N. Haddock, M.D., St. Louis.
1. *Psychotherapeutic Approach to the Management of Depression,* David Davis, M.D., Columbia.
2. *The Pharmacological Approach to the Management of Depression,* Kathleen Smith, M.D., St. Louis.
3. *Electro-Convulsive Management of Depression,* George J. Lytton, M.D., Kansas City.
4. *Management of Depression by the Family Physician,* Shervert H. Frazier, M.D., Houston, Texas.

11:00 AM *Problems of Arthritis and Connective Tissue Diseases.* (Sponsored by the St. Louis Rheumatism Society.)
Panel Participants:
Louis E. Ward, M.D., Rochester, Minn.
John J. Calabro, M.D., Jersey City, N. J.

12:30 PM Fifty-Year Club Luncheon.
Committee on Maternal Welfare Luncheon: Francis Bayard Carter, M.D., Durham, N. C., Guest Speaker; Annual Report on Maternal Mortality Statistics in Missouri and Two Case Reports.
General Luncheon: *Winning the Battle Against Socialism in Agriculture,* Charles B. Shuman, President, American Farm Bureau Federation, Chicago, Ill. (Sponsored by MSMA Committee on Medical Economics.)

2:30 PM *Family Planning.* (Sponsored by the MSMA Committee on Maternal Welfare.)
Moderator: A. C. Trueblood, M.D., St. Louis.
1. *Intra-Uterine Devices for Contraception,* Francis Bayard Carter, M.D., Durham, N. C.
2. *Oral Ovulation Suppression and Rhythm Contraception,* Joseph M. Krebs, M.D., St. Louis.
3. *Conventional Methods of Contraception,* Dan L. Berger, M.D., Shawnee Mission, Kansas.

2:30 PM *Antibiotics.* (Sponsored by Missouri Society of Internal Medicine.)
Moderator: Frank Carey, St. Louis.
Panel Participants:
Mark H. Leeper, M.D., Chicago, Ill.
(Two Missouri Speakers to be announced.)

2:30 PM *Surgical Session: Gastrointestinal Lesions.* (Sponsored by Missouri State Surgical Society.)
Moderator: Robert W. Bartlett, M.D., St. Louis, President, Missouri State Surgical Society.
1. *Obstructing Lesions of the Lower Thoracic Esophagus—Differentiation and Treatment,* G. V. Brindley, Jr., M.D., Temple, Texas.
2. *Carcinoid Tumors,* Cyril Costello, M.D., St. Louis.
3. *Safety Factors in Resections of the Colon and Rectum,* Robert W. Bartlett, M.D., St. Louis.
4. *Diagnosis and Management of Acute Massive Upper G. I. Bleeding,* Howard E. Linville, M.D., Kansas City.

4:00 PM Intermission to view exhibits.

4:30 PM House of Delegates, second session.

5:45 PM Missouri State Medical Foundation Annual Meeting.

6:00 PM Reference Committees.

Saturday, April 8

8:00 AM Registration.

9:00 AM *Emphysema.* (Sponsored by Missouri Chapter, American College of Chest Physicians.)
Moderator: David N. Kerr, M.D., St. Louis.
1. *Present Status of the Etiology of Emphysema,* Herbert C. Sweet, M.D., St. Louis.
2. *Pink Puffers and Blue Bloaters,* David W. Cugell, M.D., Chicago, Ill.
3. *Surgical Procedures in Emphysema,* John W. Polk, M.D., Springfield.

9:00 AM *Surgical Approach to Ischemic Heart Disease.* (Sponsored by Missouri Heart Association.)
Moderator: A. M. Estes, M.D., Cape Girardeau.
1. *Coronary Angiography,* F. Mason Sones, M.D., Cleveland, Ohio.
2. *Surgery for Coronary Arterial Disease*—The Cleveland Clinic Experience, D. Brian Effler, M.D., Cleveland, Ohio.
3. *Experimental and Clinical Approach in Revascularization of the Entire Heart,* Arthur M. Vineberg, M.D., Montreal, Canada.

10:30 AM Intermission to view exhibits.

11:00 AM Program to be announced by Missouri University School of Medicine.

11:00 AM *From Missouri Physicians.*
Brief presentations on subjects of current interest.
1. *Long Term Administration of Benzydroflumethiazide in Hypertensive Patients,* Joseph C. Edwards, M.D., St. Louis.
2. *The Value of Cerebral Biopsy in the Diagnosis of Neurologic Disease,* Kenneth R. Smith, Jr., M.D., St. Louis.
3. *Some Practical Aspects of Thyroid Problems,* A. Denton Vail, M.D., Springfield.
4. *Considerations in Diagnosis and Therapy in One-Hundred Cases of Renal Hypertension,* James M. Stokes, M.D., St. Louis.
5. *Sleep, Its Problems and Physiology,* Jack R. Eidelman, M.D., St. Louis.
6. *Frustrations of Small Bowel Roentgenology,* M. Wendell Dietz, M.D., Springfield.

11:00 AM *Triumphs of Cancer Cure.* (Sponsored by the Missouri Division, American Cancer Society.)

12:30 PM Missouri University Alumni Luncheon—Annual Award Recipient to be honored.

12:30 PM General Luncheon—Program to be announced by the MSMA Committee on Legislative Matters.

2:30 PM *Stroke—Practitioners Role in Rehabilitation.* (Sponsored by MSMA Committee on Physical Medicine and Rehabilitation.)
Moderator: Edward B. Shires, M.D., Kansas City.
1. *The Differential Diagnosis and Acute Care of the Stroke Patient,* John E. Somers, M.D., Columbia.
2. *Surgical Treatment of the Stroke Patient,* Robert D. Williams, M.D., Smithville.
3. *Rehabilitation of the Stroke Patient,* Robert Allen, M.D., Columbia.

2:30 PM *Doctor Get the Killer Off the Road* (Sponsored by the MSMA Committee on Trauma.)
Moderator: Richard E. Lord, M.D., St. Louis.
Panel Participants:
Louis Levy, M.D., Fort Worth, Texas.
Arthur W. Stickle, M.D., St. Louis.
(One Missouri Speaker to be announced.)

2:30 PM *The Management of the Unconscious Patient.* (Sponsored by the MSMA Committee on Anesthesia.)
Moderator: W. W. Tillman, M.D., Springfield.
Panel Participants:
M. T. Jenkins, M.D., Dallas, Texas.
Hector W. Benoit, Jr., M.D., Kansas City.
C. Thorpe Ray, M.D., Columbia.

4:30 PM Intermission to view exhibits.

7:30 PM Annual Banquet honoring Past Presidents of MSMA.
Speaker: U. S. Senator Edward V. Long.

Sunday, April 9

7:30 AM House of Delegates Meeting, breakfast and final session.

MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS MISSOURI ASSOCIATION OF BLOOD BANKS

1967 Annual Meeting

Chase-Park Plaza Hotel, St. Louis **Thursday, April 6, 1967**

Morning Session

Stockholm Room

Basic Experiences With the SM 12 (Multi 12) Analyzer—Marilyn M. Erickson, B.S., St. Louis.

Sources of Error in Auto-Analyzer Operation—Robert R. Cole, M.D., St. Louis.

Afternoon Session

Basic Principles of Atomic Absorption—Arthur Zimmer, Ph.D., St. Louis.

Title to be announced—William T. Newton, M.D., St. Louis.

Friday, April 7

Morning Session

Stockholm Room

Title to be announced—Robert W. Brangle, M.D., St. Louis.

Abnormal Hemoglobins—Methods of Study and Theoretical Background—Virginia Minnich, M.S., St. Louis.

Normal Bone Marrow Interpretations—Agustin Torres, M.D., St. Louis.

Afternoon Session

Program sponsored by the Missouri Association of Blood Banks. (To be announced.) Business meeting of MABB immediately following afternoon session.

Saturday, April 8

Morning Session

Stockholm Room

Short-cuts and Pitfalls in Clinical Microbiology—Raymond F. Gray, Ph.D., St. Louis.

Biological Studies of the Common Antigen of Enteric Bacteria—Jerald Domingne, Ph.D., St. Louis.

Data Processing in Bacteriology—George E. Gantner, M.D., St. Louis.

Recent Developments in Syphilis Serology—Valgard Jonsson, Dr.P.H., St. Louis.

Afternoon Session

Stockholm Room

Business Meeting—MSMT

Banquet

MISSOURI OPHTHALMOLOGICAL SOCIETY, INC.

Spring Meeting Program

April 7, 1967

Tiara Lounge, Chase-Park Plaza Hotel, St. Louis, Mo.

9:00-12:00 AM	Scientific Papers on Clinical Ophthalmology presented by members of the Society. (10:15 Coffee Break.)
12:00 NOON	Luncheon and Missouri Ophthalmological Society Business Meeting for election of new members to the Board of Directors and election of officers.
2:00 PM	Adjournment to the American Association of Ophthalmology (Missouri Chapter) panel discussion.
3:00 PM	Adjournment to the Missouri State Medical Association House of Delegates Meeting.

ANNUAL CLINICAL CONFERENCE

CHICAGO MEDICAL SOCIETY

March 5, 6, 7, 8, 1967

Palmer House, Chicago

THIS CONFERENCE WILL BE OF INTEREST TO ALL PHYSICIANS. The program is presented by leaders of medical thought in all fields of medical activity. It is designed to interest the generalist and specialist alike. THE OUTSTANDING LECTURE PROGRAM IS PLANNED TO KEEP US ABREAST OF SCIENTIFIC DEVELOPMENTS IN MEDICINE. In addition certain sessions will take cognizance of happenings in the political and social arena which are molding changes in the practice of medicine. All physicians, regardless of their field of interest, will find this program to be informative and useful.

For program or registration information address:

Clinical Conference Committee
Chicago Medical Society
310 South Michigan
Chicago, Illinois 60604

medical melange

Notes of interest from Here . . . . and There

The nationally known **"Singing Doctors"** of Springfield have made a new record album, "Singing Doctors on Stage." The album, which is their fourth, was "recorded live" before an audience of 1000 medical personnel at the Chase-Park Plaza Hotel in St. Louis. Proceeds from album sales will help to further the activities of the Greene County Medical Society's scholarship foundation, which has awarded more than 100 grants to deserving, young medical students who need financial assistance.

Dr. R. R. Kelley, Savannah, received the Savannah Sertoma Club's annual Service to Mankind Award in recognition of his ". . . more than 65 years as a family doctor in Andrew County, Mo., and for his sincere interest in people as individuals."—To give recognition and honor to **Dr. G. W. Grove**, who has served Knob Noster and the surrounding area for the past 52 years, the senior play cast dedicated this year's play to him. It was titled, "Old Doc." The play reviewed Dr. Grove's life history and the services he has rendered to that community.

Dr. Hector W. Benoit, Jr. has been installed as president of the Kansas City Southwest Clinical Society. Director of Clinics for the Society's 1967 spring and fall meetings is **Dr. Robert S. Mosser.** Other new officers are **Dr. William A. Slentz**, President-Elect; **Dr. Frederick J. McCoy**, Clinics Director-Elect; **Dr. Gaylord P. Neighbor**, Vice President; **Dr. John F. McDonnell**, Associate Director of Clinics; **Dr. W. J. Stelmach**, Secretary; and **Dr. Raymond O. Keltner**, Treasurer.

Dr. Alphonse McMahon, a staff member at St. John's Hospital in St. Louis for 44 years, was honored at a dinner given by the hospital medical staff and the Sisters of Mercy. The Mercy Award, which was presented to Dr. McMahon by the Sisters of Mercy, is the highest award bestowed by the religious order. Dr. McMahon was Chief of Staff at the hospital from 1951 to 1965.

Dr. Otey S. Jones is the new president of the St. Louis Academy of General Practice. Other officers installed recently are **Dr. Ernest H. Schaper**, President-Elect; **Dr. Leo L. Wacker**, Vice President; **Dr. Robert G. Hughes**, Secretary; and **Dr. Joseph A. Mueller**, Treasurer.

Four doctors, who have been members of the medical staff of DePaul Hospital in St. Louis since the hospital opened at its present site in 1930, were honored by their colleagues at a dinner sponsored by the Daughters of Charity, who own and operate the hospital. They are **Dr. Eugene J. O'Malley, Dr. Edwin C. Ernst, Dr. J. William Thompson** and **Dr. H. H. Kramolowsky.**

E. H. Christopherson, M.D., Executive Director of the American Academy of Pediatrics in Chicago, has been elected to the Board of Directors of the Medic Alert Foundation International, Turlock, California. Dr. Christopherson received his M.D. degree at Washington University and took his Pediatrics Residency at St. Louis Children's Hospital. Medic Alert is an international, non-profit organization dedicated to educating and indoctrinating the medical profession and the public to the need for individuals with special or "hidden" health problems wearing a Medic Alert emblem on their person describing the condition.

Posed by professional model.

You can't set her free. But you can help her feel less anxious.

You know this woman.

She's anxious, tense, irritable. She's felt this way for months.

Beset by the seemingly insurmountable problems of raising a young family, and confined to the home most of the time, her symptoms reflect a sense of inadequacy and isolation. Your reassurance and guidance may have helped some, but not enough.

SERAX (oxazepam) cannot change her environment, of course. But it can help relieve anxiety, tension, agitation and irritability, thus strengthening her ability to cope with day-to-day problems. Eventually—as she regains confidence and composure—your counsel may be all the support she needs.

> Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.
>
> May be used in a broad range of patients, generally with considerable dosage flexibility.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

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New Members

Victor H. Albera, M.D., 813-B Again St., Columbia, has become a member of Boone County Medical Society. Dr. Albera is a native of Los Angeles, California, received his preliminary education at Denver University and his M.D. degree at the University of Colorado in 1956. He specializes in anesthesiology.

Charles B. Anderson, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Anderson is a native of Passaic, New Jersey, received his preliminary education at Johns Hopkins University and his M.D. degree at Yale University in 1962. He specializes in surgery.

Elwyn James Anthony, M.D., 369 N. Taylor Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Anthony is a native of London, England, received his preliminary education at King's College and his M.D. degree at the University of London in 1941. He specializes in child psychiatry.

Virginia Mae Badger, M.D., 4960 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Badger is a native of Chicago, Illinois, received her preliminary education at Occidental College and the University of Southern California and her M.D. degree at Woman's Medical College in 1961. She specializes in orthopedic surgery.

George D. Comerci, M.D., 1465 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Comerci is a native of Newark, New Jersey, received his preliminary education at Rutgers University and his M.D. degree at Temple University in 1959. He specializes in pediatrics.

Robert E. Cuddihee, Jr., M.D., 1325 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Cuddihee is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1963. He specializes in internal medicine.

Herbert R. Domke, M.D., 1625 S. 14th St., St. Louis, has become a member of St. Louis Medical Society. Dr. Domke is a native of Hillsboro, Kansas, received his preliminary education at Wright Junior College and his M.D. degree at the University of Chicago in 1942. He is in medical administration.

James C. Ellsasser, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Ellsasser is a native of Mishawaka, Indiana, received his preliminary education at Duke University and his M.D. degree at Washington University in 1964. He specializes in orthopedics.

Lamont W. Gaston, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Gaston is a native of Sterling, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1953. He specializes in internal medicine.

Hugh S. Harris, Jr., M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Harris is a native of Flora, Mississippi, received his preliminary education at the University of Mississippi and his M.D. degree at Harvard University in 1958. He specializes in general surgery.

Robert B. Holloway, M.D., 915 N. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Holloway is a native of Memphis, Tennessee, received his preliminary education at LeMoyne College and his M.D. degree at Meharry Medical College in 1956. He specializes in anesthesiology.

Ridlon J. Kiphart, M.D., University of Missouri Medical Center, Columbia, has become a member of Boone County Medical Society. Dr. Kiphart is a native of Cincinnati, Ohio, received his preliminary education at Harvard University and his M.D. degree at Northwestern University in 1957. He specializes in thoracic surgery.

Nicholas T. Kouchoukos, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Kouchoukos is a native of Grand Rapids, Michigan, received his preliminary education at the University of Michigan and his M.D. degree at Washington University in 1961. He specializes in surgery.

Donald A. Lindberg, M.D., University of Missouri Medical Center, Columbia, has become a member of Boone County Medical Society. Dr. Lindberg is a native of Brooklyn, New York, received his preliminary education at Amherst College and his M.D. degree at Columbia University in 1958. He specializes in pathology.

Richard Harvey Martin, M.D., Department of Medicine, University of Missouri, Columbia, has become a member of Boone County Medical Society. Dr. Martin is a native of LaPorte, Indiana, received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Rochester in 1957. He specializes in internal medicine and cardiology.

Colleen M. Melburn, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Melburn is a native of St. Louis, received her preliminary education at McGill and Washington Universities and her M.D. degree at the University of Missouri in 1961. She specializes in anesthesiology.

David N. Near, M.D., 1125 Graham Road, Florissant, has become a member of St. Louis Medical Society. Dr. Near is a native of Glasgow, Montana, received his preliminary education at Montana State College and his M.D. degree at Washington University in 1959. He specializes in surgery.

Lily Ann Palmer, M.D., 510 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Palmer is a native of Siloam Springs, Arkansas, received her preliminary education at the University of Denver and her M.D. degree at Washington University in 1960. She specializes in radiology.

Carlos Perez-Mesa, M.D., Ellis Fischel State Cancer Hospital, Columbia, has become a member of Boone County Medical Society. Dr. Perez-Mesa is a native of Sta. Clara, Cuba, received his preliminary education at Instituto De Santa Clara and his M.D. degree at the University of La Habana in 1950. He specializes in pathology.

E. James Potchen, M.D., 510 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Potchen is a native of New York, N. Y., received his preliminary education at Michigan State University and his M.D. degree at Wayne State University in 1958. He specializes in radiology.

Bernard C. Randolph, M.D., 3737 N. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Randolph is a native of New York, N. Y., received his preliminary education at the City College of New York and his M.D. degree at Howard University in 1947. He is in general practice.

John S. Schengber, M.D., 1221 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Schengber is a native of Cincinnati, Ohio, received his preliminary education at Xavier University and his M.D. degree at St. Louis University in 1959. He specializes in psychiatry.

Eli R. Shuter, M.D., 4940 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Shuter is a native of New York, N. Y., received his preliminary education at Cornell University and his M.D. degree at Washington University in 1960. He specializes in neurology.

Charles A. Sigmund, M.D., 10517 St. Charles Rock Road, St. Ann, has become a member of the St. Louis Medical Society. Dr. Sigmund is a native of St. Louis, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1960. He specializes in ophthalmology.

Earl M. Simmons, Jr., M.D., 406 Turner Ave., Columbia, has become a member of Boone County Medical Society. Dr. Simmons is a native of Birmingham, Alabama, received his preliminary education at Vanderbilt University and his M.D. degree at the Medical College of Alabama in 1956. He specializes in thoracic surgery.

Morton E. Smith, M.D., 660 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Smith is a native of Baltimore, Maryland, received his preliminary education at Baltimore City College and his M.D. degree at the University of Maryland in 1960. He specializes in ophthalmology.

Paul E. Stohr, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Stohr is a native of Terre Haute, Indiana, received his preliminary education at Indiana University and his M.D. degree at Washington University in 1959. He specializes in neurosurgery.

Robert P. Stoy, M.D., 201 W. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Stoy is a native of Adah, Pennsylvania, received his preliminary education at West Virginia University and his M.D. degree at Jefferson Medical College of Philadelphia in 1952. He specializes in general surgery.

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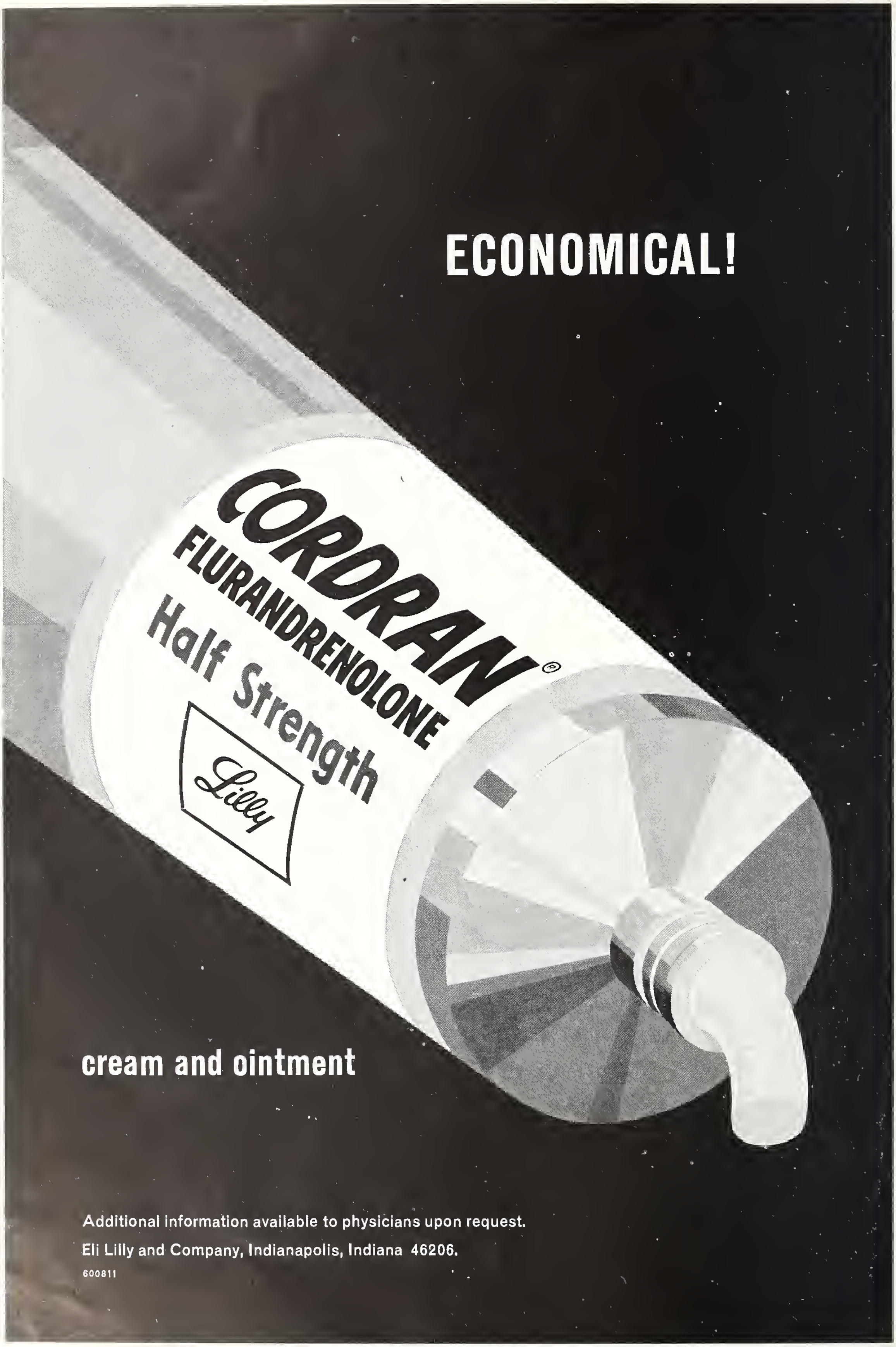

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JOHN J. GARRETT, M.D., *St. Louis*

The Interpretation and Significance Of Proteinuria

A Review

The examination of a sample of urine for albumin, one of the most venerable and respected traditions in clinical medicine, continues to be a reliable and efficient index of renal disease. The differential diagnosis of a number of common clinical problems, such as edema of obscure origin, undiagnosed anemia or progressive hypertensive disease, is often either brought into focus or completely clarified by the finding of albuminuria. In addition, the increasing performance of pre-employment, military, school and insurance examinations and the urinalyses associated with them result in the annual detection of a large number of cases of unsuspected, unclassified and frequently asymptomatic renal disease.

This article, which will review the pathological and physiological alterations which accompany albuminuria, is intended to be of aid to the practicing physician in his diagnostic evaluation of the patient with this common clinical finding.

Terminology

The term, albuminuria, is rapidly, and perhaps appropriately, becoming obsolete. Analyses of the proteins excreted in the urine of healthy individuals and of patients with renal disease have revealed a wide spectrum of normal and abnormal plasma proteins. The term, proteinuria, is a more accurate and comprehensive characterization of these urinary findings and is preferable because it focuses deserved attention on the globulin fractions which are lost along with albumin in renal disease.

Normal Urinary Protein

The amount of protein found in the urine of normal individuals has always been a controversial subject. We have found it useful to regard 200 mg of protein in a 24-hour urine sample as the upper limit of normal for a hospitalized population. It is likely that 75-100 mg is a more appropriate figure for younger populations. In fact, much of the "normal" biologic data relative

This is the second in a series of articles prepared by the Department of Internal Medicine, St. Louis University School of Medicine. This review offers a comprehensive summary of some of the concepts relative to the ancient finding of protein in the urine. Heeding Hippocrates' timeless advice to thoughtfully regard the proteinuric patient, the author suggests that contemporary physicians are in a unique position to detect and evaluate individuals with renal disease. Doctor Garrett is Associate Professor of Medicine and Director of the Section of Renal Diseases in the Department of Internal Medicine, St. Louis University School of Medicine.

to protein excretion has accrued from a study of age groups between 10 and 25 years. It is our view that aging requires an upward adjustment of the normal limits.

The term, proteinuria, as employed in this article implies the persistent excretion of more than 200 mg of protein in a 24-hour urine or the persistent finding by conventional screening tests of a trace or 1+ protein in a number of voided samples.

Detection of Proteinuria

A number of tests are available for the measurement of the concentration of protein in urine. None of these is as chemically specific or clinically convenient as the popular colorimetric dipstick test. This reagent paper begins to show a color change at a protein concentration approximating 20 mg/100 ml. The normal individual with a daily urine volume exceeding 1,000 ml and with a urinary protein of less than 200 mg/24 hours will not give a "positive" reaction.

The question of "false positives" does not arise with the dipstick test. This method, to a large extent, is unaffected by turbidity or by the presence of drug metabolites. The older heat and acetic acid and sulfosalicylic acid methods are vulnerable to the presence of both turbidity and other chemicals. The most notorious of the latter are metabolites of tolbutamide, sulfisoxazole, penicillin and radiographic contrast media.

It would seem important, at this point, to comment on some of the details relating to the collection and preparation of the urine sample. If a positive reaction is found in an uncentrifuged sample, it should always be verified by examination of the supernatant after the sample has been centrifuged. The presence of cellular material, casts and debris will obviously confuse the visual findings.

The effect of dilution on the reliability of any given urinalysis is readily appreciated but often overlooked. All of the laboratory tests for the detection of proteinuria are potentially invalidated by diuresis. The ancient ruse, in which an individual with trace to 2+ proteinuria is instructed to ingest a quart or more of water and return for a repeat urinalysis which may then be found to be protein free, is the classical example of the effects of a large urine volume on a test which measures concentration of a solute. It is also a distinct disservice to the patient and somewhat of an exercise in self delusion for the analyst.

It is the practice in some laboratories to perform protein analyses only if the specific gravity of the urine specimen equals 1.018 or higher. This approach appears to have certain advantages until it is recalled that the patient with renal disease may be unable to form a concentrated urine. The time honored procedure of examining the first voided morning specimen avoids dilution artifacts which may occur later in the day following the ingestion of liquids.

24-Hour Urinary Protein

If random samples of urine show persistent proteinuria, the next reasonable procedure is a quantitative assessment of the amount of protein excreted in a 24-hour period. Although most often done in the clinical chemistry laboratory, a close and clinically useful estimate of 24-hour urinary protein excretion may be obtained in an office or outpatient setting. The patient is simply instructed to bring a 24-hour urine collection in a clean container. The volume is measured and the concentration of protein determined with the dipstick type of reagent. The following formula is then applied:

$$\text{24 Hour Urinary Protein} = \frac{\text{Conc. mg/100 ml} \times \text{Urine Volume in ml}}{100}$$

Quantitative estimates of the amount of protein lost by patients with renal disease offer the clinician some help in his differential diagnosis of the underlying lesion and may contribute greatly to his understanding of the total clinical picture. Fig. 1 shows the approximate correlations between renal diseases and degrees of pro-

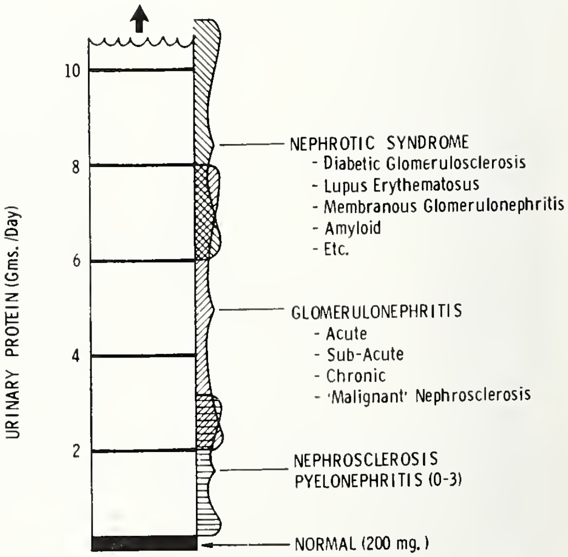


Fig. 1 Quantitative protein excretion in a variety of renal disorders.

teinuria. Although there is significant overlapping of all the categories of renal disease mentioned, some major groupings are recognizable.

Perhaps of even greater importance is the contribution which the quantitative measurement makes to the physician's understanding of the metabolic consequences of proteinuria. The prolonged loss of serum proteins into the urine provokes a number of metabolic or physiologic problems. Some of these are immediately apparent; others are subtle in onset and manifestation and are less often appreciated. A patient with the nephrotic syndrome, for example, who each day loses 10 gm of protein through a defective kidney is literally wasting 5-10% of his circulating protein pool every 24 hours. This patient, in addition to taxing his biosynthetic mechanisms for plasma protein production, upsets the balance between the forces controlling water distribution in the various body compartments and discards specific proteins which may be imperative to his survival. There is some evidence, for example, that the increased susceptibility to infection which characterizes the nephrotic syndrome may in part be due to the loss of gammaglobulins through the urine of patients with this disorder. The abbreviated schema of Fig. 2 presents these problems in outline form.

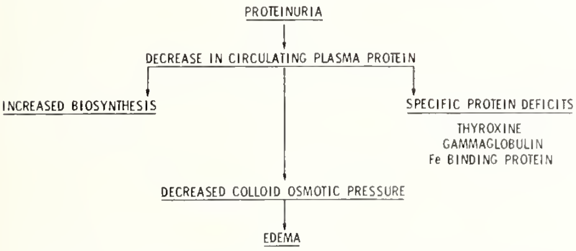

PROTEINURIA
DECREASE IN CIRCULATING PLASMA PROTEIN
INCREASED BIOSYNTHESIS
SPECIFIC PROTEIN DEFICITS
THYROXINE
GAMMAGLOBULIN
Fe BINDING PROTEIN
DECREASED COLLOID OSMOTIC PRESSURE
EDEMA

Fig. 2 The consequences of renal protein wasting.

Origin and Analysis of Urinary Proteins

It is worthwhile to regard the glomerulus as a large passive filtration device (Fig. 3) with a mesh-like surface area approximating two square feet. Into this apparatus streams whole blood at a rate of 1200 ml/min. Water and small particles move across this molecular sieve so that the volume of filtrate formed is close to 100 ml/min. Larger particles, red cells, proteins, etc. do not ordinarily diffuse across this selective filter because of the limited porosity or permeability of the mesh-like filtration system. A simple calculation based on some of the physiologic data mentioned above indicates that some 50 kg of plasma proteins stream by the glomerular surface daily. The fact that normal urine contains so little protein is objective testimony to the integrity of this selective filter.

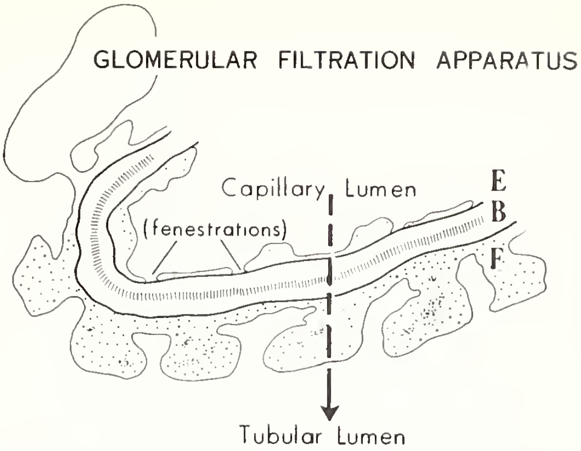


Fig. 3 A schematic representation of the structures involved in the formation of the glomerular filtrate. The endothelial cytoplasm (E) is characterized by irregularly spaced windows (fenestrations). The basement membrane (B) may be regarded as a gel-like filter. The epithelial foot processes (F) appear to form a cavernous "roof" on the tubular lumen.

The adoption of this mechanistic point of view with respect to glomerular structure and function is of great help in understanding renal physiology in both the normal and the affected kidney and forms a useful, although admittedly somewhat oversimplified, basis for interpreting proteinuria. The more detailed appreciation of glomerular ultrastructure afforded by electron microscopy appears, if anything, to support these mechanistic or physical points of view. It is actually a useful clinical concept to regard all urinary proteins as having escaped from plasma into urine through a defective glomerular filter.

For many years, it has been the hope of clinical investigators that correlations would be established between the microscopic classification of renal disease and the patterns of urinary protein excretion. If such correlations were confirmed, the electrophoretic analysis of urinary proteins would assume diagnostic significance. The literature relating to this subject is extensive and reflects a continuing interest over at least three decades. (Fig. 4) As of this writing, the hope has not been realized and the patterns found are inconsistent. Although some of the discrepancies are due to methodological variations, a significant number are due to the inherent heterogeneity of glomerular lesions not only in individual diseased kidneys, but also in different stages of the same disease.

Despite these shortcomings, improvements in methods for the separation and identification of

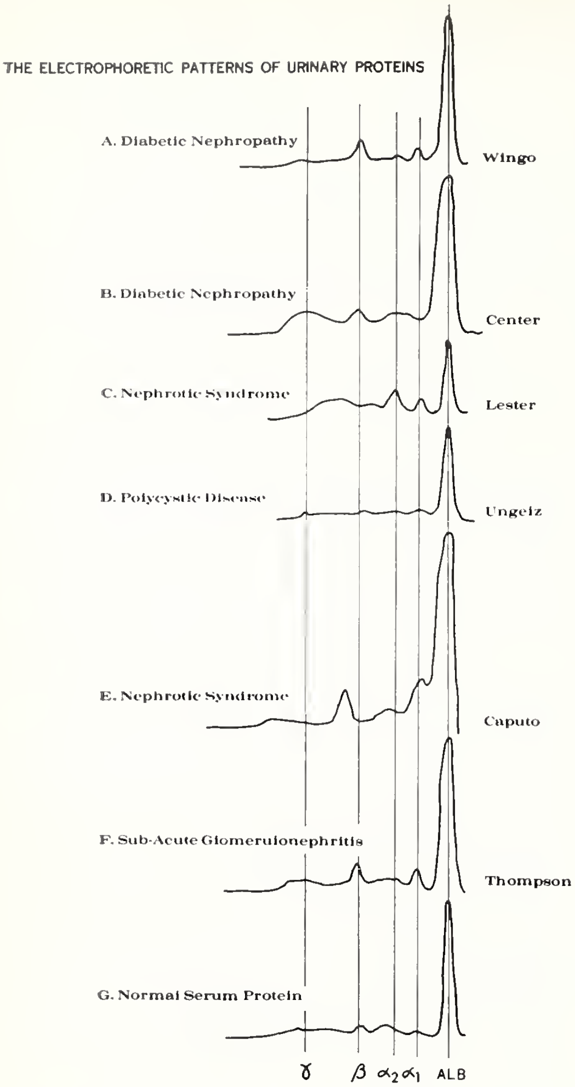


Fig. 4 A random collection of urinary protein patterns. Note the variations within the same disease.

biological proteins and the more widespread employment of renal biopsy are continually refining the interpretation and utilization of urinary protein studies. An interesting and apparently useful correlation, for example, has recently been established between the "protein clearances" of patients with the nephrotic syndrome and the histologic patterns obtained by light and electron microscopy.[1] With the application of immunological techniques, it has been possible to measure and compare the excretion of proteins of different molecular weights, such as albumin, transferrin, gammaglobulin, alpha-2-macroglobulin and beta-lipoprotein. It appears that patients with minimal glomerular lesions demonstrate the most "selective" patterns of proteinuria in that a greater proportion of low molecular weight albumin is lost, whereas patients with more extensive and seemingly further advanced glomerular disease show less selective excretion and tend to lose proteins over a wide range of molecular weights. This information has been used by several groups as a basis for steroid therapy in the nephrotic syndrome. The patients with minimal glomerular lesions and with the most selective patterns of proteinuria appear to show the best response to steroid therapy and the most favorable prognosis. Clinical application of this concept of selective versus non-selective proteinuria will probably expand as more experience is gained with it and with the methods upon which it is based.

BENIGN OR ASYMPTOMATIC PROTEINURIA

This term has been used to describe a frequently encountered clinical situation characterized by the finding of persistent proteinuria in an otherwise completely healthy individual. The patient is usually a young adult who can contribute little historical information of etiologic value and whose proteinuria was an incidental finding. The physical findings are uniformly normal. There are no evidences of hypertension, retinopathy or edema. Renal function tests indicate normal values for creatinine clearance, concentrating ability and urine acidification. X-ray studies, absolutely essential in the evaluation of patients with suspected renal disease, reveal normal kidneys, normal ureters and a normal bladder. Both the patient and the physician may find it difficult to take this problem seriously. Yet many, if not most of these patients, have significant and progressive renal disease, usually a form of glomerulonephritis. Muth[2] has developed this theme of the significance of proteinuria in a very interesting study of patients with mild intermittent protein excretion and normal renal function. Thirty-five out of 51 asymptomatic patients with these findings had anatomical abnormalities of the glomeruli.

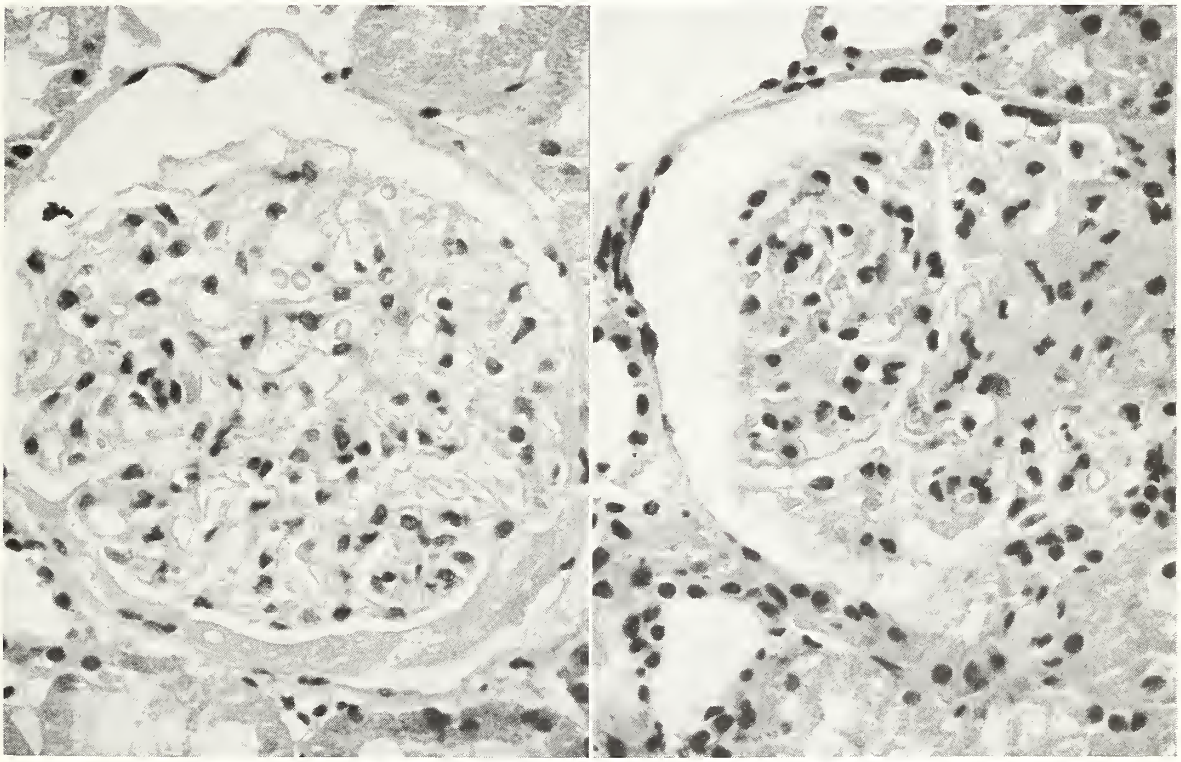
The following brief summary of a case recently encountered on our service is an excellent example of the problem of asymptomatic proteinuria:

A 20-year-old male shipping clerk was referred for evaluation of proteinuria. The patient had been well all of his life, denied sore throats, allergies and exposure to nephrotoxins. Several months before admission, he had been asked to report for a preinduction examination. Persistent proteinuria was discovered, and he was not accepted for military service. There was no family history of renal disease, diabetes or hypertension. On examination, he was a muscular, healthy young male. Blood pressure was 116/84. There were no positive physical findings. The eyegrounds were normal. There was no edema. The kidneys were not palpable. Admission urinalysis showed 3+ proteinuria (300 mg%), a pH of 5.0, and a negative spun sediment. Hemogram, BUN, FBS, serum proteins and electrolytes were normal. Chest films and IVP were normal. Twenty-four hour urinary protein excretion was 2.4 grams. Creatinine clearance was 140 liters per 24 hours (100%). Renal biopsy (Fig. 5) showed a variety of glomerular lesions. The final diagnosis was glomerulonephritis, mixed type.

Renal biopsy is the only procedure which permits specific diagnosis in patients with asymptomatic proteinuria. The demonstration of histologic abnormalities invariably raises two questions: (1) Is it a rapidly or slowly progressive disease? (2) Can it be arrested? Decisions with respect to the appropriateness of steroid therapy, for example, depend upon an understanding of the natural history of the observed renal lesion, a history now unfolding.

Postural Proteinuria

It is difficult to summarize the present state of knowledge relative to this phenomenon. The fundamental question, "Does the finding of postural proteinuria in adolescence or early adult life imply clinically significant renal disease in later years?," remains unanswered. Development of the natural history of this abnormality demands precise comprehensive and long-term study of these patients. The more intensive investigations carried out thus far (with the aid of renal biopsy)[3, 4] suggest that perhaps 50% of these patients have glomerular alterations detectable by light microscopy. The significance of these changes, their etiology, histologic evolution and functional importance require clarification. A recently reported study utilizing both electron microscopy and individual protein clearances points out the discrepancies between the histologic abnormalities and the protein excretion patterns.[5] The authors point out that although there are some anatomical similarities between the lesions seen in postural proteinuria and in an early stage of glomerulonephritis, the pattern of proteinuria is completely different.



Figs. 5A (left) and 5B (right) Glomeruli obtained from a percutaneous renal biopsy of a 20-year-old male with "asymptomatic" proteinuria and normal renal function. Many of the glomeruli were normal. (5A) Others showed widening of the mesangial spaces and thickening of the capillary loops, findings consistent with membranous glomerulonephritis. (5B) Some of the glomeruli showed obliteration of the capillary loops and beginning hyalinization. The tubules, vessels and interstitium were normal.

We find it difficult to completely abandon the well-executed and rather convincing evidence that hemodynamic alterations play a role in this obscure situation. It is our practice to assign the diagnosis of orthostatic proteinuria only when the following criteria are satisfied:

1. Absence of physical findings of renal disease (edema, hypertension, retinopathy).
2. Normal renal function (creatinine clearance, concentration ability).
3. Structurally normal urinary tract (normal IVP, normal retrograde studies, if indicated).
4. Less than 100 mg of protein excreted during 12 hours of recumbency.
5. More than 100 mg of protein excreted during 12 hours of average non-strenuous activity.
6. Normal renal biopsy.

Congestive Heart Failure

Mild proteinuria almost always accompanies the development of congestive cardiac failure and, in general, is unrelated to the type of underlying heart disease. It is useful to regard the proteinuria of cardiac decompensation[6] as falling in the range of 1.0 to 2.0 grams per 24 hours. There are, however, notable exceptions. It is well to recall that massive proteinuria, in the nephrotic range, may occasionally occur in this situation without histologic evidence of renal disease. A very interesting group of four cases of the nephrotic syndrome occurring during the course of chronic cardiac failure was reported by Burack and his colleagues in 1958.[7] These patients developed all of the biochemical hallmarks of the adult nephrotic syndrome: massive proteinuria (4-10 gm/day), hypoalbuminemia and hyperlipemia. Three of these patients were without histologic evidence of renal disease, and in two cases, the clinical and chemical changes reversed with the re-establishment of cardiac compensation.

It has been suggested that there is a relationship between severity of congestive heart failure and degree of proteinuria. Although several experiences correlate long-standing "right sided" heart failure and the heavier proteinurias, the trend is not a consistent one. The present state of knowledge allows a single assumption: "Any patient in congestive cardiac failure, whatever the etiology, may have any degree of proteinuria." The mechanisms which allow the escape of proteins in these patients may be several. Hypoxia and the resultant capillary damage, "stagnation" of glomerular flow and renal venous congestion have all been regarded as physiological aberrations contributing to proteinuria.

Wegria *et al*[8] evaluated the role of increasing renal venous pressure in an experimental setting and found that proteinuria usually developed within one hour after renal vein pressure was increased. It cleared rapidly following a return to normal. This study also confirmed the observation that elevation of renal venous pressure decreases urine flow. The importance of hemodynamic factors in the maintenance of normal renal function is difficult to overemphasize. The formation of a glomerular filtrate, the volume of urine and its composition are all dependent upon adequate renal perfusion.

The patient with congestive heart failure often appears to have serious underlying renal disease with nitrogen retention, proteinuria and oliguria. In many instances, these are manifestations of "pre-renal" azotemia and disappear with the restoration of cardiac output and compensation. It is impossible to evaluate true renal function in patients who are in acute or chronic congestive heart failure.

The subject is further complicated by the significant incidence of true parenchymatous renal disease in these patients. It is immediately apparent that a large group of individuals with congestive heart failure will contain a number of patients with arteriolar disease, nephrosclerosis, renal infarcts, diabetic nephropathy, pyelonephritis and, perhaps, an instance of amyloidosis.

Multiple Myeloma

A brief discussion of multiple myeloma is appropriate here not only because this disease is often associated with proteinuria, but also because Bence Jones proteinuria is the classical example of an abnormal protein (in this case of low molecular weight) diffusing through a normal filtration apparatus. The urine of patients with multiple myeloma may show a variety of proteins and the electrophoretic pattern may be diagnostic. The presence of other than "myeloma" proteins is an index of the degree of renal involvement which may occur in this disease.

Summary

This review has attempted to summarize some of the current concepts relative to the ancient finding of protein in the urine. The concise statements of Hippocrates[9] are said to refer to this finding and to comment on its diagnostic and prognostic significance. Contemporary physicians, heeding this timeless advice to thoughtful-

(Continued on page 118)

RICHARD H. FALLON, M.D., ***St. Louis***

Pneumatosis Cystoides Intestinalis, Associated With Scleroderma and Presenting With Pneumoperitoneum

PNEUMATOSIS CYSTOIDES INTESTINALIS is an infrequent condition in which gas filled cysts occur subserosally in the intestinal wall and mesentery. Most cases are associated with another more serious gastrointestinal disease. In an extensive review of the subject, Koss[1] showed only 15% of the described cases of pneumatosis cystoides intestinalis to be unassociated with other gastrointestinal pathology. While various other gastrointestinal diseases have been reported in association with it (Table 1), this is the first reported case associated with generalized scleroderma. Pneumoperitoneum as the initial finding also is unusual.

CASE REPORT

A 61-year-old woman was admitted to the hospital because of nausea, vomiting, abdominal pain and distension for two days. She had been treated for progressive generalized scleroderma for ten years and had been on steroid therapy for the nine months before her present illness. She had suffered two similar, but less severe, episodes of nausea, vomiting, abdominal pain and distension in the past two years. These attacks were of one or two days' duration and cleared spontaneously. They were diagnosed as ileus secondary to sclerodermal involvement of her intestine.

Physical examination showed an ill, cachectic woman who had severe sclerodermal changes of the face, hands and feet, as well as pedal and sacral edema. She had no fever or hypertension. The abdomen was very distended, tense and tympanitic, but only slightly tender. Bowel sounds were normal. The initial total and differential white blood count and urinalysis were normal. Roentgenograms showed up infiltrative process at both lung bases, free air under the diaphragm and possible intestinal obstruction.

She was operated upon after intravenous fluid and electrolyte therapy. Free intraperitoneal air was found without perforation or obstruction. The distal one-half of the small intestine and its mesentery were filled with thin-walled, air-filled cysts. The small bowel contained non-continuous thickened areas consistent with sclerodermal involvement. A jejunostomy was performed. Her post-operative course was progressively downhill; she died on the 11th post-operative day.

DISCUSSION

Historically, the first well documented human case of pneumatosis cystoides intestinalis is attributed to Bang.[2, 3, 4] The occurrence of a similar condition in swine had been previously recognized,[3] and the similarity between the disease in hogs and in man was pointed out by Hahn.[4]

Most of the reports of the disease have been

TABLE I

DISEASES ASSOCIATED WITH PNEUMATOSIS CYSTOIDES INTESTINALIS
(Adapted from Koss[1])

1. Gastric or duodenal ulcer (Usually with pyloric stenosis)	117
2. Various lesions	24
a. Acute and chronic enteritis	
b. Chronic colitis	
c. Gastroptosis	
d. Gastric dilitation	
e. Adhesions	
f. Intestinal obstruction due to gallstone	
g. Diaphragmatic hernia	
h. Esophageal stenosis due to lye ingestion	
i. Non-specific ulceration of bowel	
j. Intestinal parasites	
k. Acute peritonitis	
l. Previous small bowel anastomosis	
3. Carcinoma of stomach	7
4. Intestinal tuberculosis	7
5. Acute and chronic appendicitis	4
6. Unknown	21
7. No disease (primary)	33
TOTAL	213

A brief review and illustrative case report on an infrequent condition which usually is associated with more serious gastrointestinal disease. Etiology of the condition is unknown and treatment is directed at the more serious primary disease. Doctor Fallon is from the Department of Surgery, Washington University Medical School and Barnes Hospital.

isolated cases. Koss[4] collected 213 adult and 31 pediatric cases reported in the literature. In 85% of the adult cases associated with another gastrointestinal disease, 58% had involvement of the pyloric area with peptic ulcer and some degree of pyloric obstruction.

In a review from the Mayo Clinic,[5] only 4.9% of the patients with generalized scleroderma had small intestinal involvement. Thus, considering the infrequency of both generalized scleroderma and pneumatosis cystoides intestinalis, it is easy to appreciate the rarity of co-existence of the two diseases.

As in this case, the distal small bowel is involved most frequently with pneumatosis cystoides intestinalis. However, involvement of the stomach, colon, omentum and diaphragmatic surfaces has been reported.

Pneumoperitoneum has been frequently reported before.[1-3] A case of tension pneumoperitoneum was reported by Urban in 1910.[4] In most of the cases of pneumoperitoneum, there is little evidence of peritonitis. As in this case, the WBD, differential and body temperature were usually normal.

Microscopically,[4] the cysts are partially lined with a single layer of flat to columnar cells. Multinucleated giant cells with an eosinophilic cystoplasm are present in the inflammatory areas about the cysts. The cysts vary from a fraction of a millimeter to several centimeters in length. While most of the cysts are subserosal, submucosal cysts do occur, mostly in children.

The etiology of the cysts is unknown,[2,4] although there are five general theories: bacterial, chemical, dietary, neoplastic and mechanical. The last is most widely accepted in that most cases are present with some degree of intestinal obstruction.

The treatment of this disease is directed at the associated condition. Spontaneous clearing of the cysts has been reported.[2-4] A pre-operative diagnosis is seldom made, though some authors consider the roentgenogram picture diagnostic.[3]

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Proteinuria Review (Cont'd)

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GEORGE J. L. WULFF, JR., M.D., ***St. Louis***

IUCD Versus Population Explosion

It is estimated that the future world population will double every 40 years, if unchecked. The areas least equipped to sustain populations are experiencing fastest growth. The author discusses factors that influence the population growth rate, the areas in which population increase is greatest, the need for regulation of reproduction and the revival of interest in the intrauterine method of conception control. Doctor Wulff is Assistant Professor in Clinical Obstetrics and Gynecology, Washington University School of Medicine; Director of the Department of Obstetrics and Gynecology, St. Luke's Hospital; and a member of the staffs of St. Louis Maternity Hospital and Barnes Hospital. This paper was presented originally before the Missouri Academy of General Practice.

In discussing the subject of intrauterine contraceptive devices as a means of combatting the world population explosion, it is first necessary to define the term, "population explosion." Is this a fact or a myth? Most physicians today would support the latter, noting that our own private obstetrical practice is not growing at any such rate as has been predicted for that of the world population.

Our private practices fail to reflect the total picture primarily because we are dealing with Americans of an economic status higher than that of many in the total world population. Demographers assure us that there is no myth to the figures shown in Table 1.[1] Note that the first doubling of the world's population took place over a period of 1600 years, but the second took less than 200 years. Note further that, if unchecked, it is estimated that the population in the future will double every 40 years.

This represents the general picture of world population growth, but the figures become even more alarming when one realizes that those areas least equipped to sustain populations are the ones growing fastest. For example, the annual rate of increase for all North America is 1.6% and for Europe as a whole is 0.9%, while that for South America and Southern Asia is 2.7% and for many areas in Africa is 5% or more.[1] Doubling of the population in many of these areas will occur in less than a generation.

TABLE 1

Date	*World Population*
Birth of Christ	250 million
1650	500 million
1840	1 billion
1961	3 billion
2000 (est.)	6 billion
2040 (est.)	12 billion

Numerous factors influence this population growth rate. Some that are relevant are war, famine and disease. In our lifetime, we have seen all three of these combatted so effectively that we now have plunging death rates for both young and old, a steady birth rate yielding an accelerated population increase, a temporary standoff in major warfare and an increased agricultural productivity. These, then, are the major ingredients that are producing the explosion of people in the world. Better health keeps more people alive—they have more babies who die less frequently, who live longer, who have more babies, and so on around the circle, again and again. The prospect of a world too full of people becomes a disturbing one. Drastic steps are needed to stem this "tide of human bodies." Until recently, most emphasis was placed on plans to provide for this increase with more food, more homes, more schools, more cars, more this and more that. We need not only more things, we need less people.

Since the humane, civilized approach to this problem abhors war, famine or disease as the controlling factor, then, obviously, regulation of reproductivity becomes the method most acceptable. It follows, further, that the greatest effort must be expended to reduce this reproduction rate in the people who are medically indigent, underprivileged and poorly educated.

So much for the total world picture, but how are we in the United States affected by this explosion? As previously pointed out, we seem to be involved not at all. The number of births in the United States dropped for the third straight year; and, more pertinent to our discussion, the total births in Missouri and in St. Louis have also decreased steadily in the past five years (Table 2).

TABLE 2

CITY OF ST. LOUIS
LIVE BIRTHS

Year	*Total*	*White*	*Non-White*
1960	19,235	11,808	7,427
1961	18,541	11,210	7,331
1962	17,315	10,135	7,180
1963	16,551	9,555	6,996
1964	15,987	8,889	7,098
Decrease	3,248	2,919	329
% Decrease		24.7	4.4

During the five year period, 1960-64, total live births in the city of St. Louis decreased by 3,248 babies. The decrease is made up of 2,919 white patients and 329 non-white patients. The 2,919 patients represent a 24.7% decrease in white births over this period, while the 329 non-white patients represent a decrease of only 4.4%.[2] Since more than 75% of the non-white patients were delivered in our two municipal hospitals, racial differences in the St. Louis area reflect closely the different patients' economic status. Therefore, although the birth rate is decreasing, it is decreasing over five times more rapidly in the white group than it is in the underprivileged, predominately indigent, non-white patients.

METHODS OF CONTRACEPTION

Many methods have been developed for conception control, and their relative effectiveness is shown in Table 3. However, the effectiveness of any technique can be given consideration only when it is used regularly. Motivation on the part of the patient is essential to the control of family size. The well-informed patient of the middle to upper economic classes is motivated more or less continuously, and will best be served by using the oral contraceptive tablets both in protection from unplanned pregnancies and in avoidance of unesthetic and undesirable effects.

For the underprivileged, poorly educated and poorly motivated masses of the world, however, the intrauterine device may offer the best hope of conception control. It is simple, very effective, inexpensive and requires only one positive act of motivation for its use. It is inserted by a physician at his office or hospital, and can remain in place indefinitely. Its effectiveness and lack of need of continuing motivation far outweigh its few undesirable side effects, and it is suggested at the present time as the most effective method of reducing the birth rate in that segment of the world population which needs it most desperately.

Intrauterine methods of conception control have been known since ancient camel drivers used a small stone to prevent pregnancies in their camels during the long desert journeys. In humans, interest in these devices dates back to 1878, with the adaptation of cervical pessaries by the addition of intrauterine attachments. The early reports of Püst,[3] and later Grafënberg[4] in 1928, showed a high degree of effectiveness, but also of bleeding, expulsion and other complications.

It was not generally accepted at that time, although the Ota ring device continues to be used in Japan and was reported on extensively in 1959, by Ishihama.[5]

For the past ten years, there has been a revival of interest in the intrauterine method, and reports are frequent concerning their action and effectiveness. The most widely used types are the spiral, loop, bow and ring, with the first three being most popular in the United States (Fig. 1).

Unlike the original silver ring, which required

TABLE 3

UNPLANNED PREGNANCY RATE
(Pearl Formula)

No contraceptive method	80
Vaginal douche	40
Rhythm	39
Coitus interruptus	17
Vaginal diaphragm	15
Vaginal jelly	15
Condom	14
IUCD	1-2
Oral tablets	0

periodic removal, the newly developed plastic IUCD's, as well as the stainless steel ring, can remain in the uterus indefinitely, because they are chemically inert. The flexibility of the plastic devices also permits a simple insertion technique first developed by Margulies,[7] by which they are stretched full length within a narrow plastic tube and then resume their original shape upon extrusion from the inserter into the uterine cavity.

The IUCD's of Margulies and Lippes[8] are both equipped with an appendage or "tail," which passes through the cervical canal into the vagina. The tail of the Margulies spiral is a polyethylene stem with seven small beads, which are cut off after placement so that only one is allowed to emerge from the cervical os. A thin thread is attached to the loop designed by Lippes. These tails make it easy to remove the device and make it possible for the user, as well as the physician, to determine readily whether it is remaining in place properly. Birnberg's[9] plastic bow and the stainless steel ring, neither of which has a tail, must be removed with an instrument and requires probing or X-ray to determine their presence.

TABLE 4

TECHNIQUE OF APPLICATION

- Time:
  - End of menses
  - Immediately post-partum
  - 2-5 days post-partum
  - 4-6 weeks post-partum
- Instruments:
  - Tenaculum
  - Antiseptics
  - Uterine sound
  - Cervical dilators
  - Scissors
- Medications: (rarely needed)
  - Analgesics
  - Paracervical block
- Follow-up:
  - After first menses
  - After 3 months usage
  - Every 6 months (Papanicolaou smears)
- Instructions to patients:
  - Palpate weekly
  - Return regularly

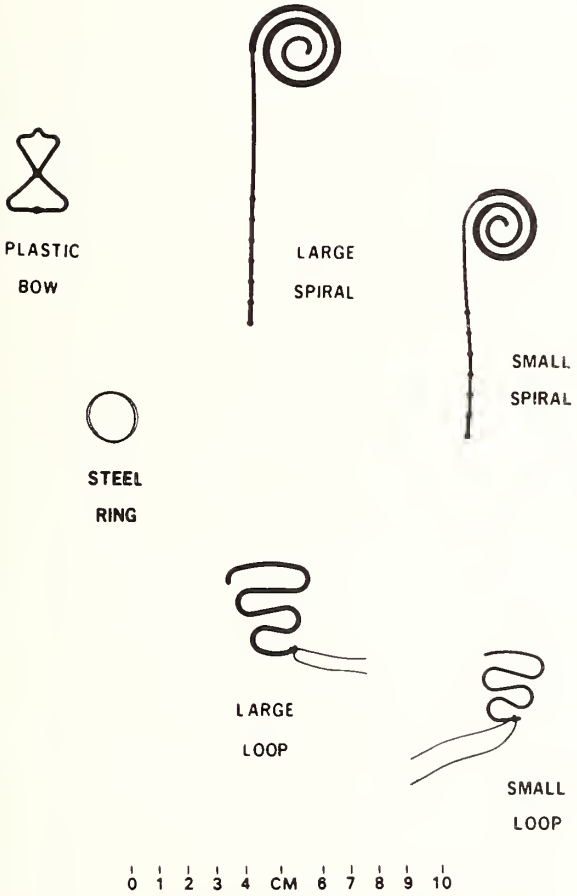

Fig. 1 Types of intrauterine contraceptive devices.[6]

The application of the intrauterine device (Table 4) is best done when the cervical canal is somewhat patulous and requires little or no dilatation. This time is immediately post menstrual or post-partum.

Patients must be urged to return for follow-up examinations after their next menses, after three months of usage and every six months thereafter, when cytological smears should be taken. They must be taught to examine themselves at least weekly to be certain the device is in proper placement. This can be accomplished, of course, only in those patients whose IUCD has a protuberance through the cervical os, and, once again, the motivation to do this palpation usually is poor in the class of patients with whom we are primarily concerned.

COMPLICATIONS

Perforations of the uterus have occurred during the insertion, but are relatively rare and have produced minimal complications. There has been no change in exfoliative cytology. Subsequent fertility has not been disturbed, and pregnancy occurs readily in patients who have discontinued use of the IUCD in order to become pregnant.

Irregular bleeding is a common complication, particularly in the first few months after insertion. This is of sufficient annoyance to necessitate removal in 3-5% of the cases. Persistent cramps or pelvic pain also is common and requires the removal of the device in about 1% of the patients.

When the Second International Conference on Intra-Uterine Contraception was held in New York City in October 1964 under the auspices of the Population Council, interest in and experience with this method of contraception had become quite widespread. At this conference, the National Committee for Maternal Health reported the results of the first year of a cooperative statistical program based on records received through June 30, 1964, from 38 participating institutions and investigations in private practice.

The report covered a total of 16,734 women, with a cumulative experience of 132,460 woman-months, wearing large and small spirals, large and small loops, small bows, stainless steel rings and a variety of other devices not analyzed separately because experience with them was too limited.

Pregnancy rates (Table 5) during the first year of use for these devices were low, 1.1 per 100 patients for the large spiral and 1.3 for the large loop. The relatively high pregnancy rates for the small spiral, small loop, the bow and the steel ring (3.0, 5.5, 5.5, and 3.6, respectively) have caused most investigators to use these types for nulliparous women only.

The number of unintended or accidental pregnancies which occurred among the 16,734 women in this program during the first year was 278. Of this number, 149 pregnancies occurred with the IUCD known, or believed to be, in the uterus at the time of conception. Most of the remaining 129 pregnancies were associated with expulsions which were not noticed by the wearer, making it impossible for the physician to ascertain whether conception occurred with the device in place or not.

TABLE 5

Unintended Pregnancies
(By Type of Device)

TYPE OF DEVICE	*Reported Pregnancies* NUMBER	RATE
Large Spiral	35	1.1
Small Spiral	16	3.0
Large Loop	33	1.3
Small Loop	57	5.5
Plastic Bow	47	5.5
Steel Ring	49	3.6
Other Devices	31	2.3
Total	278	2.6

The total of reported expulsions of IUCD's noticed or unnoticed by the wearer, complete or partial (i.e., into or from the vagina) or requiring removal from the cervix was 1,585. For all devices combined, the expulsion rate was 13.8 per 100 cases during the first year. Four out of five of these expulsions were noticed by the wearer.

A total of 1,470 women experienced removal of an IUCD for either medical (1,248 or 90%) or personal (222) reasons during the first year of the study. Removals for pre-existing or intercurrent conditions, whether or not related to the IUCD, and removals by patients or private physicians for complaints interpreted as relating to the IUCD's were classified as medical. Personal reasons for removals include all those considered relevant to the acceptability of the device, such as, fear of injury or cancer, lack of confidence, objections by husband or family physician, religious scruples and a small group of removals at the patients' request without any specific complaint being given. Bleeding and pain were the most frequent medical reasons for removals, accounting for about two out of three. Forty-one cases of discomfort to the husband during intercourse attributed to the "tail" of the IUCD, required its removal. There were 171 cases of pelvic inflammatory disease occurring after the insertion of an IUCD. A history of this condition prior to the insertion was obtained in over 50% of the cases diagnosed as pelvic inflammatory disease. The rate of pelvic inflammatory disease did not appear to be higher than that which would be expected in a comparable socio-economic population. At present time, it is not known whether infection may be related to the size, shape or material of the IUCD itself. Certainly the relationship of the use of this method and the development of inflammation remains an important part of the future study of this method of contraception.

In 188 instances, the IUCD was removed because the couple wanted a child. At the time of removal, the woman had worn the device for less than one year in 87 cases, between one and two years in 73 cases and for a longer period in 28 cases. Out of a total of 109 of these cases in which follow up was possible, about 70% conceived within six months and almost 90% within one year. It would seem, therefore, that the wearing of this device did not result in reduced fertility after its removal.

The IUCD is at present being used in a study in the service patients at St. Luke's Hospital. Since the series was started just one year ago, statistically valid figures are not yet available. However, the side effects seem the same as from other reports, with cramping and vaginal bleeding being the most objectionable to the patients.

We have observed that some patients in this economic bracket do not return for their six weeks post partum check up. These are the patients who do not attend prenatal clinic regularly, who come to the hospital for their delivery and then disappear until they are pregnant again. This group of patients is the very one who needs conception control the most desperately and for whom we must provide. We are now inserting as many as possible of the IUCDs on the third or fourth day post partum, before these patients leave the hospital. It is realized that the expulsion rate is higher with this procedure, but those who retain it will be relieved of the burden of bringing unplanned children into an unfavorable environment.

In the overall picture, the IUCD offers the best method for conception control in the poorly motivated patient of the lower economic bracket. It is not quite as effective as the oral tablets, but its effectiveness far exceeds that of any other method and it requires motivation at one time only, that of its application.

Former President Dwight D. Eisenhower described the problem as follows: ". . . since the earth is finite in area and physical resources, it is clear that unless something is done to bring an essential equilibrium between human requirements and available supply, there is going to be in some regions not only a series of riotous explosions, but also a lowering of standards of all peoples, including our own. . . . Because of our unreadiness to take corrective action in controlling population growth, if we now ignore the plight of those unborn generations which will be denied any expectations beyond abject poverty and suffering, then history will rightly condemn us."[10]

In conclusion, please remember that although there are thousands of causes of death, there is only one cause of birth. The crisis is rapidly approaching, and time is running out.

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A cystic fibrosis regional care, research and teaching center at Children's Mercy Hospital in Kansas City has been assured by means of a $15,000 grant from the National Cystic Fibrosis Research Foundation which matched funds raised locally during the 1965 fund raising drive. Announcement of the grant was made recently by Dr. Ned W. Smull, Director, who will serve as co-ordinator of the center with Dr. Virgil Fred Burry. According to Dr. Smull, the grant will enable the Hospital to place the Center on an operational basis. The Center is one of 35 regional centers established by the Foundation in teaching hospitals affiliated with medical schools.

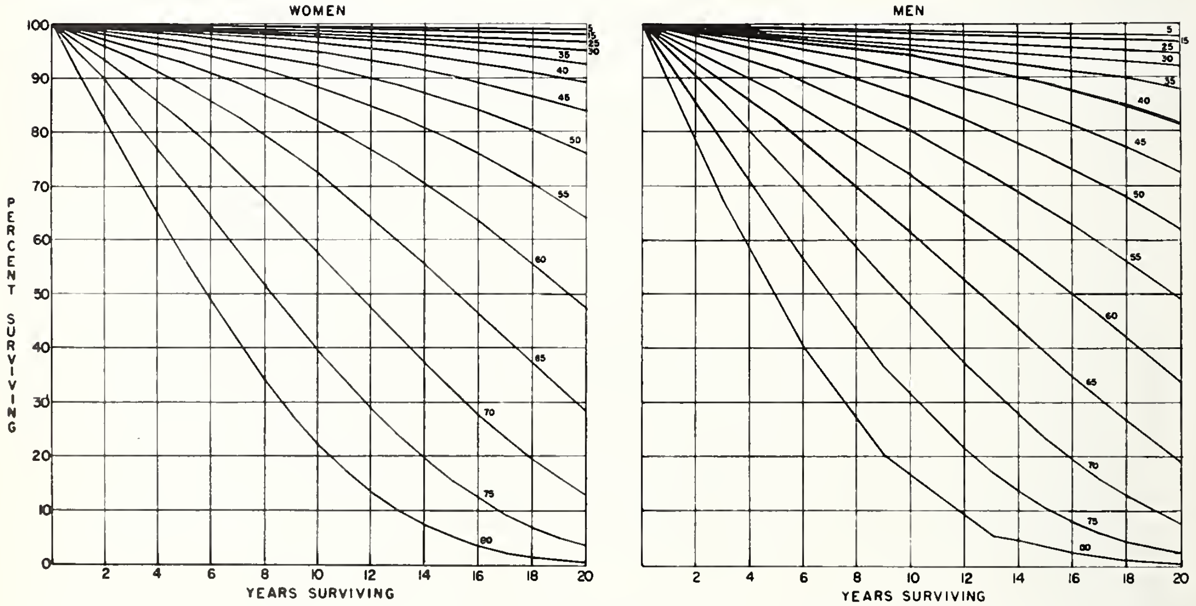
GALEN B. COOK, M.D.[*] *and* **FRANCIS R. WATSON, Ph.D.**[†]

A Ready-Reference Table of Survival for Missourians

MUCH OF THE SCIENTIFIC ACUMEN of medicine depends on the capacity of physicians to make measurements. The clock, ruler and thermometer are examples of scales used daily to compare a given patient with a normal prototype of man.

We think another measuring device will be useful to the practitioner and should become part of his armamentarium of gauges. The scale presented here shows the duration of life of Missouri men and women according to age. By comparing the life duration of any given patient with the life duration of the general population of the same age, the physician can determine the effectiveness of his treatment for any disease (whether intended as cure or palliation). Thus he may learn the value of his efforts toward approaching or exceeding the expected rate of dying in Missouri for any age. Although, admittedly, survival is not the only or, necessarily, the best criteria for judging therapeutic worth,[‡] it is one that can be determined readily and, therefore, its measurement is presented here.

This information was derived from the general population of Missouri as determined by the 1960 United States Census.



To use this table, determine the patient's sex and age. Knowing the sex, select the appropriate graph and locate the curve that most nearly duplicates the patient's age. By following this curve one can determine the percent surviving or the probability of remaining alive (the ordinate) for a given number of years into the future (the abscissa). As an example: a woman, 70 years of age, has nearly a 20% chance of living 18 additional years.

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Meprobamate: Careful supervision of dose and amounts prescribed is advised, especially for patients with known propensity for taking excessive quantities of drugs. Excessive and prolonged use in susceptible persons, e.g. alcoholics, former addicts, and other severe psychoneurotics, has been reported to result in dependence on the drug. Where excessive dosage has continued for weeks or months, reduce dosage gradually. Sudden withdrawal may precipitate recurrence of preexisting symptoms such as anxiety, anorexia, or insomnia; or withdrawal reactions such as vomiting, ataxia, tremors, muscle twitching and, rarely, epileptiform seizures. Should meprobamate cause drowsiness or visual disturbances, reduce dosage and avoid operation of motor vehicles, machinery or other activity requiring alertness. Effects of excessive alcohol consumption may be increased by meprobamate. Appropriate caution is recommended with patients prone to excessive drinking. In patients prone to both petit and grand mal epilepsy meprobamate may precipitate grand mal attacks. Prescribe cautiously and in small quantities to patients with suicidal tendencies.

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Dextro-amphetamine sulfate: Insomnia, excitability, and increased motor activity are common and ordinarily mild side effects. Confusion, anxiety, aggressiveness, increased libido, and hallucinations have also been observed, especially in mentally ill patients. Rebound fatigue and depression may follow central stimulation. Other effects may include dry mouth, anorexia, nausea, vomiting, diarrhea, and increased cardiovascular reactivity.

Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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WILLIAM L. DONEGAN, M.D., ***Columbia***

Continuous Intra-Arterial Regional Infusion Chemotherapy for Recurrent and Advanced Cancer

Regional chemotherapy by intra-arterial infusion has been under investigation for the treatment of cancer since its feasibility was reported by both Klopp[1] and Bierman[2] 16 years ago. Continuous intra-arterial infusion of antimetabolites, a variation later developed by Sullivan,[3] was designed to maintain constant high regional concentrations of a mitotic poison and, thereby, produce fatal damage to cancer cells as they entered into an active stage of nucleic acid synthesis. In this environment, which would be lethal to the body if present generally, neoplasms sometimes regressed which were unresponsive to the same agents administered systemically. This technique, which is still investigational, has been used to treat advanced and recurrent malignancies in most regions of the body, especially the head and neck, the liver, and the pelvis.[4-10]

Since 1964, intra-arterial continuous regional infusion of the antimetabolite 5-fluorouracil has been evaluated at the Ellis Fischel State Cancer Hospital (EFSCH) for palliation of patients with advanced or recurrent cancers. The purpose of the present paper is to review the experience with this technique which has been gained during this two year period.

Materials and Methods

Forty-six patients were treated. All had malignancies of the head and neck, pelvis, liver or extremities and were in-patients at the EFSCH. All also were considered unsuited for treatment with surgery or radiotherapy. One criterion of selection was the presence of an objectively measurable lesion, and biopsy proof of persistent disease was obtained prior to therapy. The nature of the therapy with the anticipated risks and possible benefits was carefully explained to, and voluntarily accepted by, the patient.

Forty-six patients with a variety of advanced or recurrent malignancies were treated with continuous intra-arterial infusion chemotherapy at Ellis Fischel State Cancer Hospital between October 1964 and September 1966. The author discusses the complications and results of this method of therapy. Doctor Donegan is staff surgeon at EFSCH, Assistant Professor of Surgery at the University of Missouri School of Medicine and Director of the Clinical Research Unit of the Cancer Research Center. This investigation was supported by Cancer Clinical Research Grant No. CA-08023-02 from the U. S. Department of Health, Education and Welfare, National Cancer Institute, National Institutes of Health.

The antimetabolite, 5-fluorouracil, was chosen for infusion because of its ease of administration and easily controlled toxicity. This agent was used almost exclusively with the object of more thoroughly evaluating one drug rather than collecting smaller amounts of data using several. With some variation, it was given as 1.0 gm of 5-FU in 1000 cc of 5% D/W with 50 mg of heparin during each 48 hours. This low dose allowed a moderately prolonged drug-tumor contact to exist before local toxicity necessitated discontinuance of therapy. The one patient who received methotrexate was given 50 mg during each 24 hours along with citrovorum factor intramuscularly to prevent systemic toxicity.

The production of a moderately severe toxic reaction in the region of infusion characterized by erythema, crusting, mucositis and varying degrees of epidermal slough was considered the sign of an adequate course of therapy. This reaction can usually be produced without systemic toxicity, but occasionally leukopenia necessitated interruption of therapy before it was considered completed. The speed with which these signs develop appears to depend upon the rate of infusion, the size of the infused area (Table 1) and upon individual sensitivity. Fair skinned patients usually develop local toxicity early. As local toxicity was not observable with liver infusion, a standard 1000 mg of 5-FU per 48 hours was given for 14 consecutive days, unless the course was abbreviated by other considerations.

White blood cell counts and platelet counts were performed no less often than every other day during treatment and a WBC of 3000 or less or a platelet count of 70,000 or less was reason for discontinuing therapy until normal values were re-established.

Pressure infusion was accomplished with one of three instruments: the BD-10 Fenwal Arteriopak Pressure Infusor, the Emdeco electric pump or the Watkins-USIC Chronofusor. A PE-50 polyethylene catheter adapted with a blunt No. 23 needle was used for arterial cannulation originally, but later a Teflon catheter of similar size was preferred.

Two means of visualizing the distribution of fluids from an implanted catheter were employed. The first was slow injection of several cubic centimeters of 5% sodium fluorescein which caused the region to fluoresce in a darkened room under a woods light. An alternate and simpler method was slow injection of a small amount of 5% Patent Blue Violet solution which produces a blue-green to blue pattern in a normally lighted room. The color generalizes in several minutes and is entirely excreted after several hours. The two vital dyes can be used in rapid sequence without interference, and the speed with which small amounts of Patent Blue Violet are eliminated allows it to be used repeatedly at short intervals.

Head and Neck: Thirty-three patients received a total of 35 courses of treatment for malignancies of the head and neck. Patient ages ranged from 47 to 92 years with a mean of 67 years. Twenty-seven patients were men and six were women. In all except three cases, previous surgery or irradiation or both had been used in an effort to control the neoplasm. The three untreated patients had advanced lesions unsuited for irradiation. In five instances, simultaneous bilateral infusions were performed for tumors lying near the midline which could not be adequately covered otherwise.

A summary of the techniques used for infusion is given in Table 1. All catheterizations were performed under local anesthesia. Access to the selected vessel by retrograde catheterization of a suitable branch artery was preferred, but in some instances a direct insertion through the wall of the artery was necessary. The superficial temporal artery is a more convenient means of access to the external carotid artery than is the superior thyroid, and often can be used even after radical neck dissections. The superficial temporal artery was satisfactorily cannulated 17 of the 22 times it was attempted (77%). Ordinarily, the lower neck cannot be infused via the carotoid system, therefore for tumors low on the neck or in the supraclavicular areas either the innominate artery on the right or the subclavian artery on the left was infused via a retro-

TABLE 1

ROUTES OF CATHETERIZATION—33 PATIENTS TREATED WITH CONTINUOUS REGIONAL INTRA-ARTERIAL INFUSION FOR MALIGNANCIES OF THE HEAD AND NECK
(EFSCH October 1964-September 1966)

Artery Infused	*Access Via*	*# Cases*	*Day of Rx Loc. Tox. 1st Observed (500 mg 5-FU/24 hrs.)* MEAN	RANGE
Subclavian a.	Thoracoacromial a.	4	12	7-16
	Internal mammary a.	1		
	Direct puncture	1		
Innominate a.	Thoracoacromial a.	9	11	6-14
Common carotid a.	Superficial temporal a.	9	5	1-11
	Superior thyroid a.	4		
	Direct puncture	1		
External carotid a.	Superficial temporal a.	8	5	3- 8
	Superior thyroid a.	6		
	Direct puncture	1		

grade catheter inserted through the thoraco-acromial artery, which is conveniently located in the delto-pectoral groove. Since the anterior, superior and posterior flaps of neck dissections were found to be supplied by the ipsilateral external carotid artery, the ipsilateral subclavian artery and the contra-lateral external carotid artery, respectively, recurrences at the juncture of the three flaps often required catheterization of both the external carotid and the subclavian artery on the side of the lesion for adequate coverage.

Hepatic: Five patients (three women and two men whose ages were 70, 68, 51, 49, and 69, respectively) had infusions of the hepatic artery. Two of the patients had advanced adenocarcinomas of the gallbladder. The remaining three had metastatic carcinoma from the pancreas, the cecum, and a malignant melanoma arising in the skin. In all instances, the liver metastases were found at exploratory laparotomy and the infusion catheter was placed at this time. Only the hepatic artery, which is the major blood supply of metastases in the liver, was infused, being entered twice via the right gastro-epiploic artery and three times via the gastro-duodenal artery. Placement was checked with an injection of vital dye and the catheter was exited by way of a needle tract in the anterior abdominal wall separate from the incision.

Pelvis: Five female patients were treated for persistent pelvic cancer, which in three cases was postirradiation recurrent cancer of the cervix and in two others postsurgical recurrent carcinoma of the colon and rectum previously treated for palliation with irradiation. Teflon catheters were inserted in four cases directly into both hypogastric arteries at exploratory laparotomy or subsequently through bilateral extraperitoneal lower abdominal incisions and exited retroperitoneally. The fifth patient had recurrent colonic carcinoma occupying the left soft and bony pelvis and extending into the left upper thigh. Adequate infusion of the involved area was achieved with a single catheter inserted retrograde via the inferior epigastric artery into the left common iliac artery through an extraperitoneal left inguinal incision.

TABLE 2

Major Complications Encountered During 35 Courses of Continuous Intra-arterial Infusion Chemotherapy for Malignancies of the Head and Neck

Complication	*Number*	*%*
A. Related to the technique of infusion:		
Hemiparesis	4	11
Aneurysm at site of catheter	1	3
Replacement or repositioning of catheter required	9	26
Premature withdrawal of catheter	3	9
B. Related to the chemotherapeutic agent:		
WBC less than 3000/mm^3	6	17.1
Platelet count less than 70,000/mm^3	0	0
Hospital death	1	3
C. Unrelated to technique or agent:		
Hospital death	1	3

Extremities: Two men, aged 66 and 57, and a 14-year-old girl received infusion for malignancies located on the extremities, a reticulum cell sarcoma of the skin and subcutaneous tissues of the lower extremity, an undifferentiated carcinoma of the axilla and a metastatic rhabdomyosarcoma of the lower extremity, respectively. The lesions of the lower extremity were treated with a catheter in the common iliac artery placed retrograde through the hypogastric artery. The axilla was treated with a catheter in the subclavian artery.

Results

Head and Neck Infusions: Major complications encountered during head and neck infusions are summarized in Table 2. Minor mishaps and temporary equipment failures are not included. Complications were more frequent during the early period when familiarity with the technique was being acquired, and they have subsequently diminished. Therefore, the summary provided does not reflect the present risk of the procedure as much as it does the price of the present level of achievement.

Two patients died in the hospital during or shortly after treatment. One death was not clearly related to either the drug or the technique, having resulted from aspiration of vomitus after a tube feeding. The second resulted from systemic toxicity. A fatal pneumonia followed the development of generalized weakness and leukopenia during therapy.

Nonfatal complications may be divided into those related to the technique and those related to drug toxicity. Among the former, hemiparesis is the most distressing. In three patients who developed hemiparesis, the catheter was so situated that a portion of the infusate entered the internal carotid artery. The fourth resulted from an accidental rapid embolism of several cubic centimeters of air through a catheter positioned at the base of the external carotid artery during a change of tubing, and it is likely that a portion of the air entered the internal carotid artery.

Hemiparesis resulted in three of the 14 times that the common carotid artery was infused, an incidence of 21%. This artery is no longer infused except in unusual circumstances when the considerable risk can be justifiably assumed. In one case after catheter removal, an aneurysm developed at the base of the external carotid artery where it had been directly cannulated. Rupture of the aneurysm was treated with ligation of the base of the artery and resection of the dilated segment, and the patient suffered no sequelae. Unintentional withdrawal of the catheter by the patient occurred three times at night or during a period of confusion. This problem emphasized the importance of continuing patient cooperation and alertness as requisite for therapy. Replacement or repositioning of the catheter was necessary in one-quarter of the patients. In only one instance was this for catheter occlusion. The most frequent cause was altered and unsatisfactory distribution of drug apparently due to a shift in the position of the catheter by intra-arterial hemodynamics.

Drug effects including dermatitis, mucositis and ulceration of the skin in the treated area were objectives of therapy, rather than complications. In no instance have these changes appeared detrimental to the healing of incisions within the affected area. Alopecia in the scalp distribution of the drug was also an expected consequence of adequate therapy (Fig. 1). Systemic toxicity indicated by leukopenia developed in 17% of the patients treated, and probably contributed to the death of one patient. In no case did the platelet count fall below 70,000/mm, and no other signs of systemic toxicity were encountered.

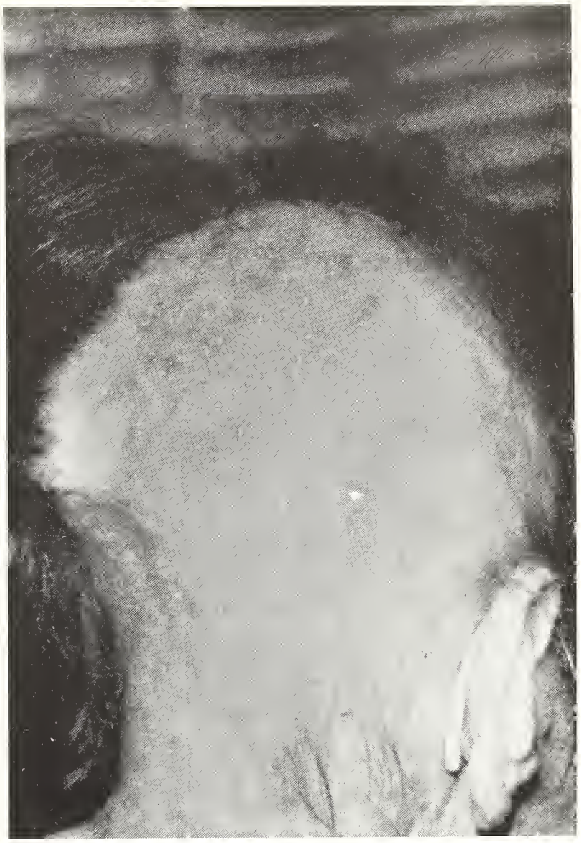

Fig. 1 Temporary alopecia is a side effect of regional infusion when it includes the scalp. This patient had loss of hair over the distribution of the right occipital artery which lasted for three months. The anterior hairline was protected by ligation of the superficial temporal artery.

Tumor Response: Neoplasms of the head and neck lend themselves especially well to objective measurement and the diameters of each

TABLE 3

Results of Head and Neck Infusion With 5-FU in 32 Patients

Malignancy	*Total # Patients*	*Completed Therapy*	*Objective Response**	*Response Rate %*	*Duration of Response* mos.
Epidermoid ca. lip	5	4	0	0	
Epidermoid ca. pharynx	1	1	0	0	
Epidermoid ca. skin of face	6	5	3	60	1-2.5
Epidermoid ca. tongue	5	4	2	50	<1-2.5
Epidermoid ca. larynx	3	3	2	67	1.5-5
Epidermoid ca. tonsil	2	2	1	50	>1
Epidermoid ca. gingiva and floor of mouth	4	3	1	33	>2
Epidermoid ca. buccal mucosa	2	1	1	100	2
Adenocarcinoma floor of mouth	1	1	0	0	
Basal cell carcinomas of face	3	2	0	0	
TOTALS	32	26	10	38.5	

* Criterion of response = 50% or greater decrease in measurable dimensions of neoplasm.

tumor were carefully measured prior to therapy. Since some reduction in size can result simply from local care, at least a 50% reduction in measured dimensions was required before a response was credited to treatment. A summary of the frequency and duration of tumor responses is shown in Table 3. Of 26 patients who completed a course of therapy, 38.5% had objective regressions of their tumors and three (11.5%) had complete disappearance of all gross neoplasm (Figs. 2 & 3). All responsive tumors were epidermoid carcinomas. Two basal cell carcinomas of the face and one adenocarcinoma of the mouth were unaffected. The duration of regression measured from the termination of therapy until the tumor regained its pretreatment size was almost uniformly brief, not exceeding two and one-half months in all cases except one. A carcinoma of the larynx completely regressed for a period of five months (Fig. 4). Retreatment of this lesion produced only a partial regression, and regrowth followed immediately upon cessation of therapy.

Factors possibly related to tumor regression were investigated with the results shown in Table 4. The malignancies treated from each location are too few to detect a topographical differential in responsiveness. Although the small figures do not allow statistical confirmation, previous irradiation of the infused area was associated with fewer tumor responses than when no irradiation had been used. On the other hand, the laryngeal tumor which completely regressed was recurrent after irradiation and, therefore, prior irradiation does not preclude a satisfactory response. Since few squamous tumors other than histologically mid-differentiated ones were treated, little can be concluded about responsiveness related to histological differentiation.

The proposition was entertained that rapidly proliferating neoplasms would metabolize more rapidly than slower ones and be more susceptible to the effects of an antimetabolite. The postsurgical interval free of local recurrence was used as a measure of this factor, but no correlation with response to therapy was evident. Patients with the shortest free intervals after surgery had a frequency of regression equal to that of patients with the longest, while the intermediates were too few to evaluate.

Hepatic Infusions: Five patients with relatively advanced neoplastic involvement of the liver received a total of six courses of hepatic infusion with the results shown in Table 5.

Complications related to the technique included leakage of ascitic fluid from the abdomen at the catheter site in two patients and the need

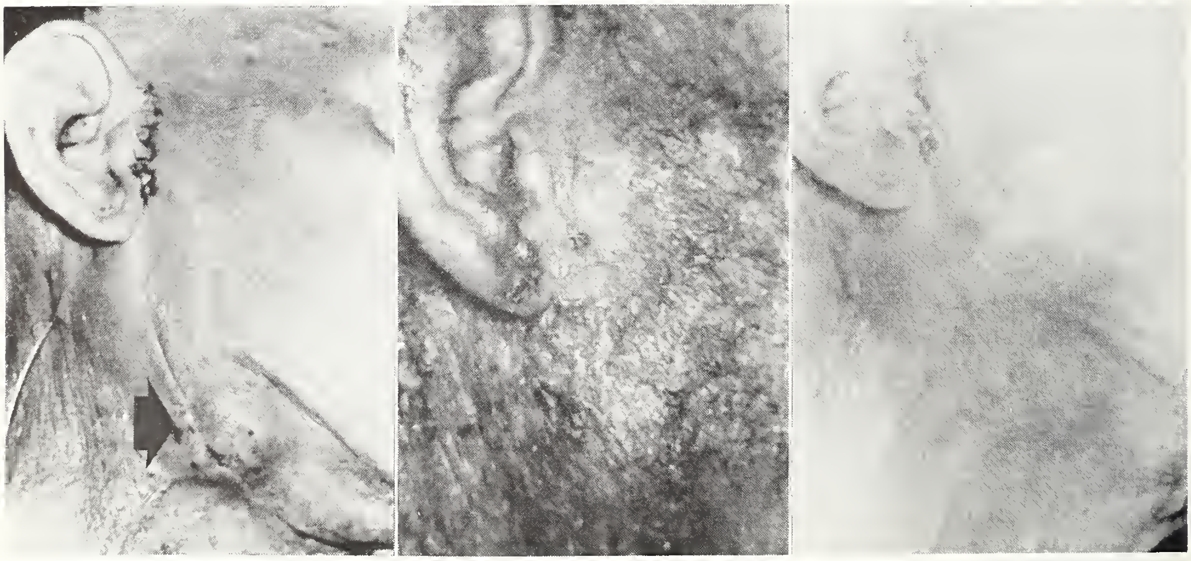

Fig. 2 This 74-year-old man experienced regression of recurrent epidermoid carcinoma in the scar of a radical neck dissection. The primary tumor, located on the buccal mucosa, was previously controlled with telecobalt therapy and interstitial radium. (Left) The nodule of recurrent carcinoma in the scar of the neck dissection adjoining the carotid artery. Also illustrated are the incision for cannulation of the superficial temporal artery and the Teflon catheter which has been placed by this route into the external carotid artery. (Center) Crusting and exudative dermatitis which resulted over the area during infusion therapy. (Right) The appearance of the skin after completion of treatment. There is marked regression of the tumor and the skin reaction has subsided. The infusion catheter is still in place.

for re-exploration in one case because of a leaking infusion catheter. Hemopoietic depression was not a problem, but nausea and vomiting were frequent, as was diarrhea. One patient with

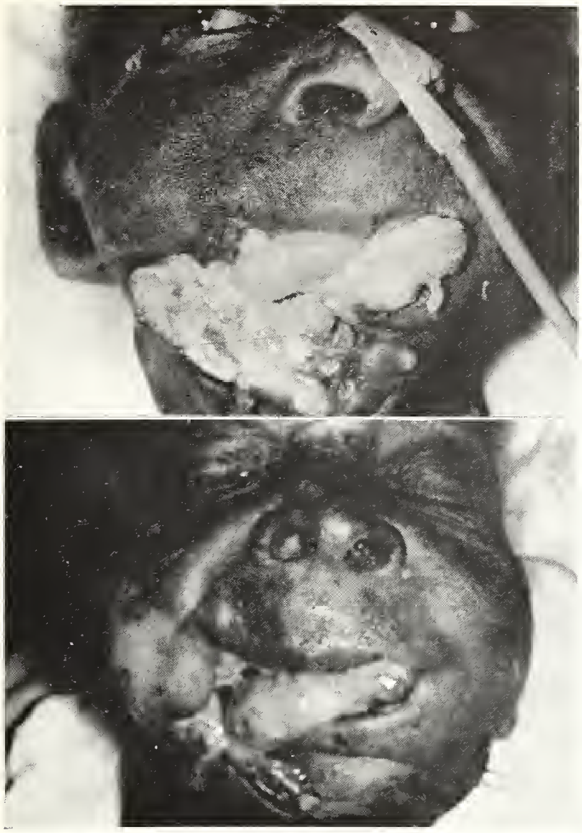

Fig. 3 This 91-year-old Negress was treated with bilateral external carotid artery infusion of 5-Fluorouracil for a persistent epidermoid carcinoma originating on the lower gingiva. Previous therapy included external irradiation, interstitial radon implants, partial mandibulectomy and a partial glossectomy. (Top) The extent of the tumor prior to infusion chemotherapy. Adequate nutrition required feedings through a nasogastric tube. (Bottom) Appearance of the same patient shortly after treatment before complete subsidence of the skin reaction. There is marked clinical regression of the malignancy which eventually completely disappeared. The patient regained the capacity to take feedings with minimal oral incontinence.

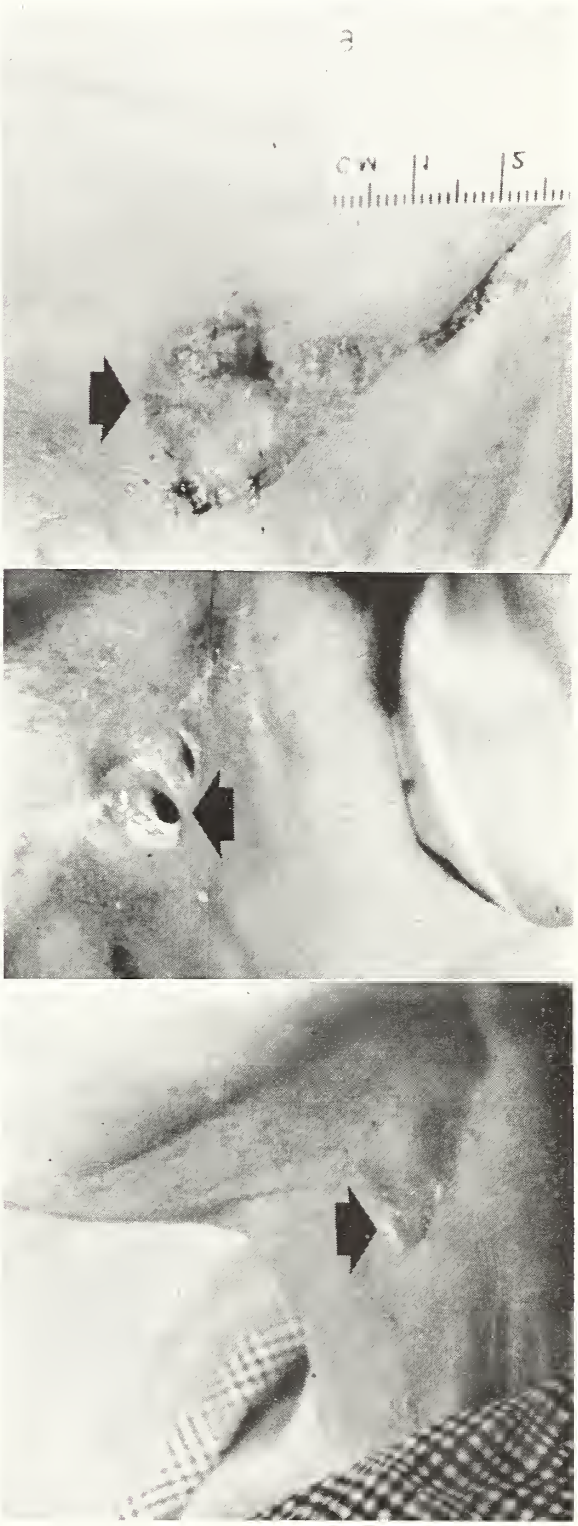

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Fig. 4 This 56-year-old woman was treated for a recurrent epidermoid carcinoma of the larynx which completely eroded through the lateral neck despite radiotherapy and a radical neck dissection. (Top) The friable mass of tumor on the lateral neck prior to infusion chemotherapy. Naso-gastric feedings and a tracheostomy were necessary to sustain the life of the patient. (Center) Appearance of the same area shortly after the completion of therapy. Neoplastic tissue has completely regressed leaving two distinct sinus tracts into the pharynx and a rim of normal tissue. (Bottom) Appearance of the patient two months following treatment. The sinus tracts have been closed by normal healing and the patient was able to eat and breathe normally.

TABLE 4

Various Factors Versus Response of Epidermoid Carcinomas of Head and Neck to Continuous Intra-arterial Infusion Chemotherapy With 5-FU*
(EFSCH October 1964-September 1966)

Variable	*# Patients*	*Completed Rx*	*Response*	*% Response*
Previous Therapy to treated area				
Surgery alone	8	8	5	63
Radiotherapy	4	4	1	25
Radiotherapy and surgery	14	10	4	40
None	2	1	0	0
Histologic Differentiation				
Well differentiated	1	0	0	
Mid-differentiated	24	20	9	45
Poorly differentiated	2	2	1	50
Free Interval After Surgery				
1-4 mos.	13	10	4	40
5-8 mos.	3	2	2	100
9 mos. or more	7	7	3	43

*Objective Response = 50% or greater reduction in size of neoplasm.

advanced liver involvement and jaundice followed a rapidly downhill course and died in the hospital one day after infusion was discontinued.

A slight regression in the palpable liver edge was detected in two of the five patients, but in no case did the liver become nonpalpable. In another case, the liver edge was not palpable initially and two silver clips were placed on either side of a metastatic nodule in the liver to be observed with serial X-rays. The distance between the clips did not diminish with treatment. Two patients showed reduction of serum bilirubin levels and, in one case, it returned to normal. Alkaline phosphatase levels either followed an already declining course or became more elevated during therapy, but the upward trend of transaminase levels was reversed in four patients and returned completely to normal in two (Fig. 5).

Liver biopsies performed both before and after infusion showed areas of tumor necrosis in two of the post-treatment specimens, but in view of the fact that spontaneous necrosis in metastatic implants is common, the change could not be definitely credited to the chemotherapeutic agent.

Including the patient who died in the hospital, the five treated individuals survived a mean

TABLE 5

Continuous Liver Infusions Via the Hepatic Artery With 5-Fluorouracil
(5 Patients—6 Courses of Therapy, November 1964-September 1966)

Pt.	*Age*	*Sex*	*Malignancy*	*Artery of Access*	*Days of Rx*	*Tot. Dose of 5-FU (Gms)*	*Catheter Functioned (Days)*	*Regression of Liver Edge*	*Complications*	*Survival After Therapy (Days)*
V.C.	51	F	Adenoca. of gall bladder	Rt. G.E.	14	7.0	58	No movement of silver clips	None	178
D.M.	68	F	Adenoca. of gall bladder	Rt. G.E.	14	7.0	48	None	Nausea	57
S.A.	49	M	Adenoca. of pancreas	G.D.	14	7.0	14	None	N & V, diarrhea, leak of ascitic fluid	23
R.T.	70	F	Adenoca. of cecum	G.D.	10	5.0	34	3 cms.	N & V, diarrhea, leak of ascitic fluid, re-explored for leaking cath.	1
C.M.	69	M	Melanoma ca.	G.D.	14 12	6.0 6.0	113	2 cms. 4 cms.	N & V, diarrhea, pulmonary embolus	90

period of slightly over two months after the completion of infusion therapy.

Pelvic Infusions: The results of pelvic infusion of five patients are shown in Table 6. One patient did not receive an adequate course of therapy because of extravasation of both hypogastric catheters. This was suspected when a periodic injection of Patent Blue Violet failed to produce a skin pattern, and it was confirmed by X-ray after injection of several cubic centimeters of hypaque.

Intermittent nausea and vomiting posed a frequent but minor problem during therapy. One patient developed a pseudomonas septicemia after tumor necrosis during each of two courses of therapy and died from this complication during the second course. Another developed a lower abdominal abscess, possibly from tumor necrosis, which drained spontaneously above the pubis and then healed uneventfully.

Three patients demonstrated signs of tumor regression and obtained periods of palliation. Intravenous pyelograms before and after infusion of one woman with a non-functioning left kidney, due to ureteral obstruction by a recurrent cervical epidermoid carcinoma, showed return of function of the kidney (Fig. 6). Another individual, with persistent vaginal bleeding from an uncontrolled adenocarcinoma of the uterus, who had required six blood transfusions over the course of one month, had cessation of bleeding during therapy and maintained a stable hematocrit without further transfusions during

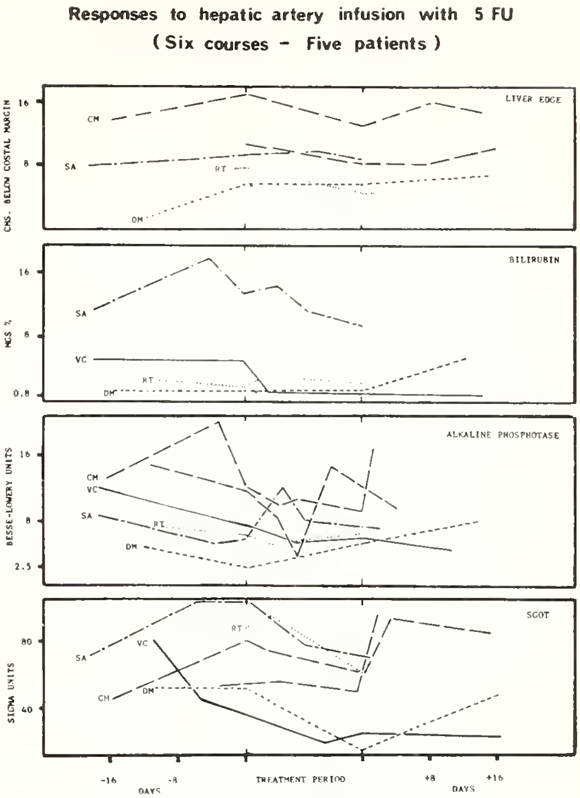

Fig. 5 Four parameters of liver function and tumor response before, during and after infusion chemotherapy via the hepatic artery are illustrated. Three of five patients treated showed some regression of an enlarged liver. One patient had a return of bilirubin levels to normal during therapy. The serum transaminase showed the most consistent improvement during hepatic infusion.

TABLE 6

Continuous Intra-arterial Pelvic Infusion With 5-Fluorouracil
(5 Patients With 6 Courses of Therapy, EFSCH October 1964-September 1966)

Pt.	*Age*	*Sex*	*Malignancy*	*Artery*	*Days of Rx*	*Tot. Dose 5-FU (Gms)*	*Catheter in Place (Days)*	*Complications*	*Response*	*Survival After Therapy*
L.T.	31	F	p̄ R.T., epid. ca. cervix	Bilat. hypogastric	14	7.0	18	N & V	Opened occluded ureter	5 mos.
E.W.	64	F	p̄ R.T., epid. ca. cervix	Bilat. hypogastric	16	8.0	18	Extravasation of catheters	Did not complete treatment	Living—6 weeks
W.M.	39	F	Recurrent adenoca. colon	Lt. common iliac via inferior epigastric	17	8.5	140	N & V, septicemia	Necrosis & partial regression of tumor mass for 7 weeks	4 mos.
					18	9.0		Septicemia		1 day
B.F.	71	F	p̄ R.T., adenoca. endometrium	Bilat. hypogastric	17	8.5	45	N & V, abdominal abscess	Decreased vaginal hemorrhage	Living—45 days
I.K.	61	F	Recurrent adenoca. rectum	Bilat. hypogastric	17	6.5	27	N & V	No response	Further rad. surg., living—27 days

the subsequent month. Partial necrosis and shrinkage of a third patient's recurrent colon carcinoma, which occupied the left pelvis and upper thigh as a confluent mass, lasted for two months and allowed the patient to ambulate during this period.

Extremity Infusion: Table 7 summarizes the results of infusing the extremities of three patients for three different malignancies. A large hematoma resulted when one catheter was accidentally withdrawn from the hypogastric artery on the day after insertion. Hemorrhage was not a problem when catheters were intentionally withdrawn at the completion of therapy as a tract around the catheter had become well established. After this time, catheters were withdrawn from the carotid, hepatic and hypogastric arteries with only a few minutes of local pressure sufficing for hemostasis.

An undifferentiated carcinoma located in the axilla actually enlarged despite adequate regional toxicity, and a rhabdomyosarcoma arising on the lower extremity was unaffected. However, a reticulum cell sarcoma widely distributed over the lower extremity and recurrent after multiple excisions and irradiation completely disappeared for one month.

DISCUSSION

The experience with continuous intra-arterial infusion chemotherapy at this hospital during a two year period has served to illustrate a number of the serious complications which can result. The method is one requiring patience, practice and vigilance, and is best performed in an environment of close patient care by nursing personnel familiar with infusion therapy. All infusions at EFSCH are presently performed on a specially equipped clinical research unit under close supervision of registered nurses. Full patient cooperation is also essential. Although complications have not been eliminated, much progress has been made in solving the major technical problems involved.

Severe hemorrhage from major vessels, aneurysm formation and infection have been reduced by virtue of the use of branch arteries for catheter introduction. Accumulating knowledge about the dynamics of blood flow and the alterations produced by surgery and tumor encroach-

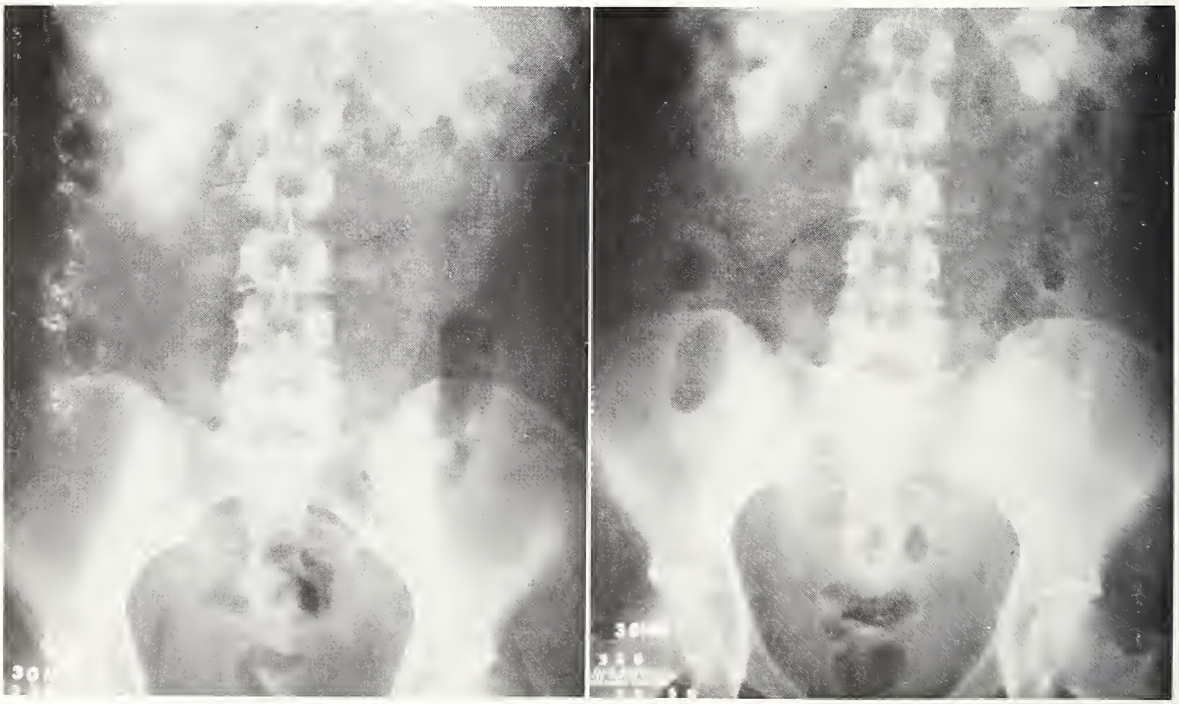

Fig. 6 Intravenous pyelograms before and after pelvic infusion chemotherapy via the hypogastric arteries with 5-Fluorouracil for persistent epidermoid carcinoma of the cervix. (Left) An intravenous pyelogram made nine days prior to beginning therapy shows nonvisualization of the left renal system due to complete ureteral obstruction. (Right) A repeat intravenous pyelogram one day following two weeks of infusion shows visualization of the left kidney, apparently as a result of tumor regression. The patient died five months after treatment.

TABLE 7

CONTINUOUS INTRA-ARTERIAL INFUSION OF EXTREMITIES
(EFSCH October 1964-September 1966)

Pt.	*Age*	*Sex*	*Malignancy*	*Artery*	*Days of Rx*	*Tot. Dose 5-FU (Gms)*	*Complications*	*Response*	*Survival After Therapy*
D.T.	57	M	Undiff. ca. lt. axilla	Subclavin via thoracoacromial	20	5.0	Readjustment of catheter required during therapy	None	Subsequent Rx with radiotherapy survived 5 mos.
R.B.	14	F	Rhabdomyosarcoma lower extremity	Common iliac via hypogastric	22	11.0	None	None	124 days
E.R.	69	M	Reticulum cell sarcoma of lower extremity	Common iliac via hypogastric	20	10.0	Extravasation of catheter with hematoma	Total regression of tumor for one month	Living—6 mos.

ment have increased the accuracy of catheter placement and drug delivery, and improvement in catheter design promises to reduce catheter displacement, plugging, and reflux.[11-13] If infusion of the internal carotid artery system is avoided with its attendant risk of precipitating neurologic deficits, it is possible, with care, to infuse almost any region of the body without undue risk.

Parallel progress has been noted in the production of pumps with varied capabilities. High flow rate systems, though not easily portable and always necessitating in-patient treatment, have the advantage of providing adequate fluid and nutritional supplement to patients when oral mucositis prevents alimentation. Low flow pumps such as the Watkins-USCI Chronofusor or the Sage Microinfusor are limited in the volume and dose delivered, but are small enough to be concealed under clothing, need recharging at infrequent intervals and are suited for prolonged ambulatory out-patient infusion.

Not equally as encouraging as the technological advances have been the therapeutic results. A variety of antimetabolic agents have been given limited trials, but methotrexate and 5-fluorouracil are the most thoroughly evaluated. Malignancies of the head and neck pose the main object of therapy because recurrence is a frequent clinical problem, they remain relatively localized, regional vasculature is easily accessible and responses to therapy are easily measured objectively.

The experience with 5-FU at EFSCH mirrors the experience of most others that epidermoid carcinomas of the head and neck respond to infusion of antimetabolic agents with partial or total regression in a sizable number of cases. Regression has also often conferred palliation in the form of reduced pain, reduced hemorrhage, closure of fistulas, healing of malignant ulcers, improved alimentation and weight gain. Unfortunately, the period of relief has been short lived. Although prolonged regressions are reported, usually only a brief respite from the disease is obtained.[7, 14, 15] Retreatment of previous responders is met with less reduction in tumor size than formerly for an even more brief period.

Fluorouracil also produced regression of post-irradiation persistent epidermoid carcinomas of the cervix as well as of a recurrent adenocarcinoma of the colon and total regression of a reticulum cell sarcoma of the lower extremity, but again the effects were not enduring.

Objective evaluation of tumor response during liver infusions with the methods used was difficult and inexact, and no dramatic results were observed. Morbidity was considerable and one patient died immediately following treatment. More judicious selection of cases for liver infusion as suggested by Ariel and Pack[16] appears advisable as advanced cases appear to tolerate the therapy poorly and derive little benefit. A simple, accurate and acceptable means of serially measuring the size of lesions in the liver is still needed.

It appears that the greatest future usefulness of continuous infusion chemotherapy may be found in the pursuit of three objectives. The first is continued trial of new drugs and different

(*Continued on page 141*)

A Radiologic Audit

Exercises in Cholecystography

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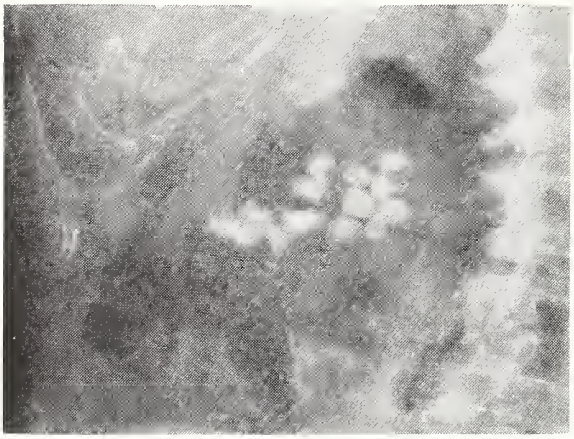
Indicate your evaluation of these X-ray reports by checking the appropriate box below after examining these sample films:

Case I

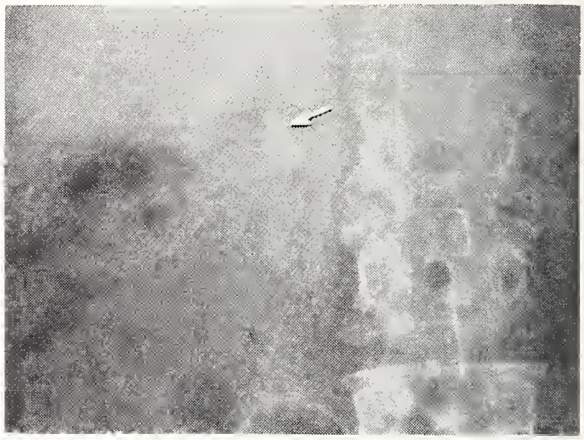
Survey abdomen: The biliary area contains numerous faceted, opaque gallstones.
Impression: Cholelithiasis



True ☐ False ☐

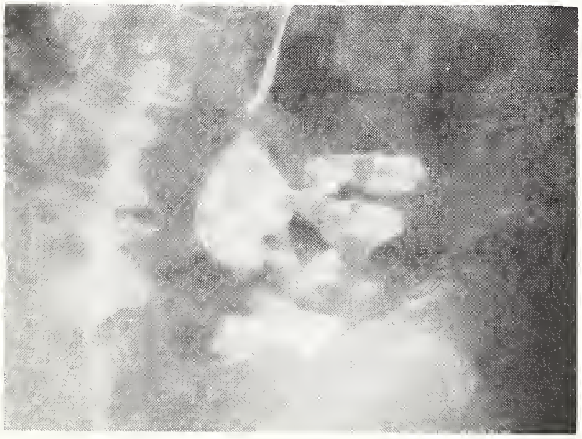
Case II

Survey abdomen: A laminated oval calculus is visible in the biliary region.
Impression: Solitary gallstone



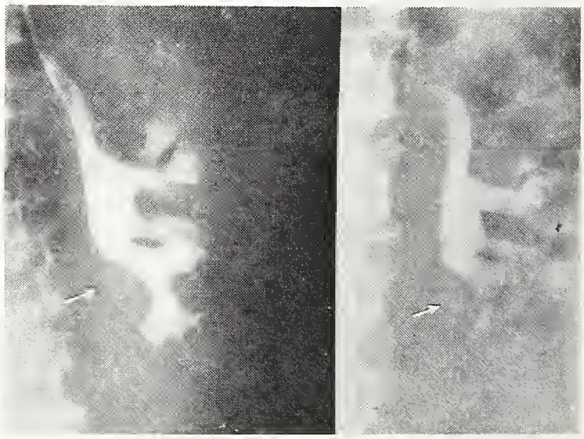
True ☐ False ☐

Reverse this page for an additional key film and the final answer to this problem-case. . . .



Case I

The X-ray report is FALSE!
This is NEPHROLITHIASIS—not cholelithiasis. These "pathognomonic gallstones" fill the entire right intrarenal collecting system.



Case II

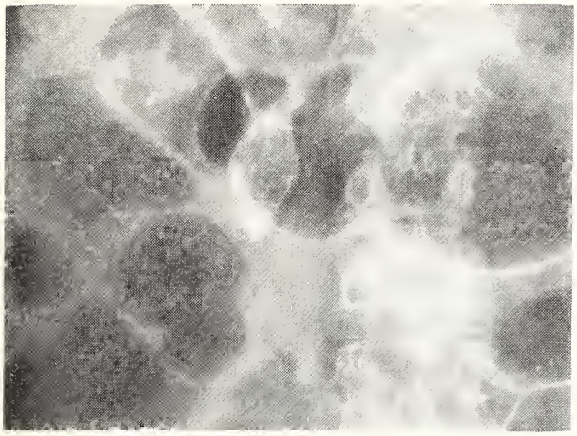
The X-ray report is FALSE!
This calcification is medial to a normal gallbladder. It is within the walls of a RENAL ARTERY ANEURYSM.

---

* Director, Department of Diagnostic Radiology, Burge-Protestant Hospital; Clinical Assistant Professor of Radiology, University of Missouri School of Medicine.

Case III

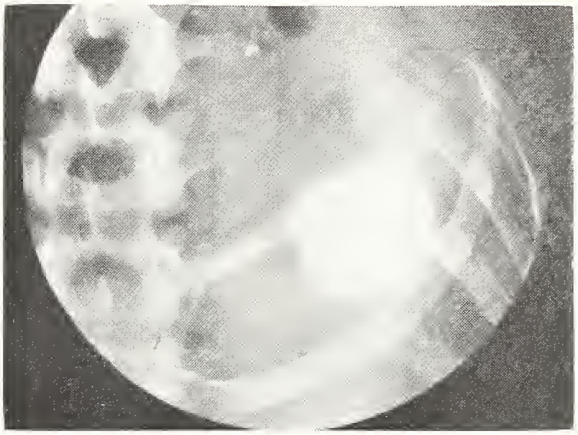
Survey abdomen: The gallbladder wall is heavily calcified. (Conceivably, the calcification is within a huge gallstone.)
Impression: Porcelain gallbladder



True ☐ False ☐

Case IV

Cholecystogram: A gallbladder of normal size, contour and position contains no stones. Concentration of the cholecystopaque is adequate.
Impression: Negative cholecystogram



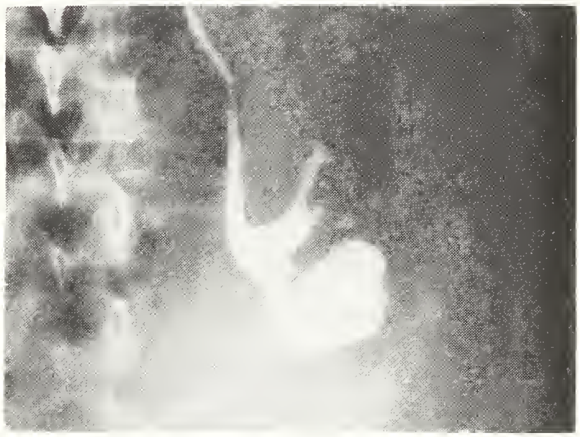
True ☐ False ☐

Reverse this page for confirmation of these X-ray reports.

Case IV

The X-ray report is FALSE!

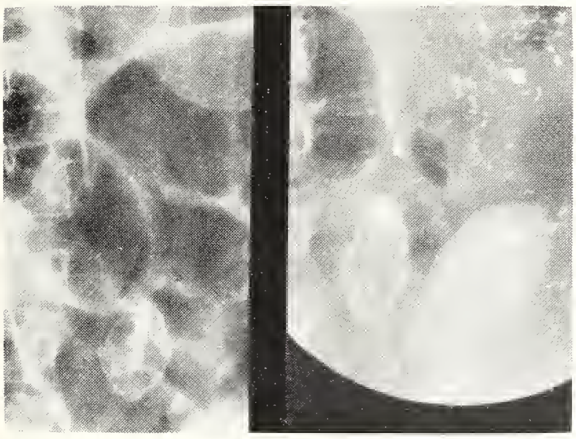
The so-called "cholecystogram" is a 72-hour recheck (for evidence of retention) of the CALICEAL DIVERTICULUM demonstrated in the retrograde pyelogram shown below.



Case III

The X-ray report is FALSE!

The calcification is medial to a normal gallbladder (A). A functioning right kidney could not be demonstrated. The calcified mass is an APLASTIC KIDNEY. Note the blind-ending ureter (B).



JOHN T. LOGUE, M.D. *and*
SIDLEE W. LEEPER, M.D., *Columbia*

Superficial Staphylococcal Infections Treated Orally With Fucidine (Sodium Fusidate)

FUCIDINE (SODIUM FUSIDATE) is an antibiotic that was obtained by fermentation from the fungus, *Fusidium coccineum*. It was discovered by Godtfredsen and his coworkers in Denmark and is closely related to cephalosporin P_1, helvolic acid and ramycin.

The antibacterial spectrum of sodium fusidate has been studied by Godtfredsen *et al*,[1, 2] Barber and Waterworth,[3] Hilson,[4] Taylor and Bloor,[5] Sørenson[6] and others. All the studies have shown it to be effective *in vitro* against a variety of Gram-positive organisms and, particularly, against *Staphylococcus aureus*. Because it is not affected by penicillinase, sodium fusidate is equally effective against penicillin-sensitive and penicillin-resistant strains of *Staph. aureus*.

No cross-resistance has been observed between sodium fusidate and other antistaphylococcal antibiotics, although cross-resistance is found with cephalosporin P_1.

The main indication for use of sodium fusidate, therefore, is in the treatment of staphylococcal infections and, particularly, those resistant to penicillin.

PHARMACOLOGY

Sodium fusidate is readily absorbed after oral administration, and it can be detected in the serum therapeutically effective concentrations within 30 minutes after a 500 mg dose.[2] Peak concentrations are usually attained during the first two hours after ingestion, and detectable concentrations may be present for as long as 48 hours after a single dose.

It is excreted slowly. It appears to be concentrated and excreted in the bile, and is found in large amounts in the feces. Little, if any, appears in the urine even after prolonged therapy.[2]

This brief study of the use of a new antibiotic in staphylococcal infections, even without controls, indicates the probability of another useful drug. The authors suggest that more extensive trials with sodium fusidate are warranted, especially as a valuable alternative in the treatment of patients allergic to penicillin. Doctors Logue and Leeper are Clinical Assistant Professors at the University of Missouri School of Medicine and are in private practice in Columbia.

PREVIOUS CLINICAL STUDIES

Sodium fusidate has been used clinically in Great Britain and the Scandinavian countries since 1962, but has only recently become available in this country.

Several of the European studies have included patients with superficial staphylococcal infections.[7-13] Blatt[7] treated 14 patients with furunculosis, eight of whom had previously been treated with penicillins. All the patients were clinically cured at the end of therapy, and 13 were free of recurrences during the follow-up period of two to nine months. The remaining patient was lost to follow-up. Bredesgaard[8] successfully treated six patients with sodium fusidate for staphylococcal diseases of the skin. All had a past history of staphylococcal diseases. The series of 71 patients treated by Jensen[10] included 42 with furuncles, nine with hidradenitis and 20 with abscesses. At the end of the treatment period, 61 were bacteriologically cured, nine were improved and one was unchanged. The group rated as bacteriologically improved included several cases in which cultures before treatment showed numerous staphylococci and after treatment showed only an occasional organism.

In 101 patients treated by Winther,[13] clinical results at the end of therapy showed 83 (82%) healed, 11 (11%) improved and no change in

TABLE 1

Pt. #	*Age*	*Sex*	*Diagnosis*	*Duration of Disease Before Fucidin Rx (Mos.)*	*Previous Therapy*	*Dosage of Fucidin (mg. tid)*	*Duration of Therapy in Days (Courses)*	*Length of Time Before Relapse (Days)*	*Length of Follow-up (Weeks)*	*Clinical Results*
1	56	M	Recurrent furunculosis	12	Oxacillin (3 courses)	500 500	7(1st) 7(2nd)	14 —	?	Multiple furuncles of buttocks subsided in 7 days, recurred in 2 weeks, and subsided with second 7-day course. No further recurrence.
6	35	M	Recurrent furunculosis	12	Tetracycline	500	21	—	6	Prompt response without recurrence.
3	8	M	Multiple furuncles	2	Penicillin	200	10	—	?	Prompt complete response.
4	33	F	Recurrent furunculosis	2	Erythromycin Oxacillin	500 500	10 5	9 —	?	Marked improvement with first course but recurred in nine days. No recurrence after second course.
9	37	F	Multiple furuncles	0	None	500	6	—	?	Prompt complete response.
10	24	M	Multiple furuncles with cellulitis	0	None	500	14	—	?	Complete cure.
11	33	F	Multiple furuncles: abscess on leg	0	None	500	14	—	?	Apparent cure. Prompt disappearance of all lesions.
8	39	F	Furuncle	0	None	500 250	2 3	—	?	Dosage reduced on 3rd day due to nausea and vomiting. Prompt clinical response. Negative cultures after therapy.
7	36	M	Carbuncle	0	None	500	12	—	?	Prompt complete cure.
5	59	M	Acute cellulitis of hand	0	None	500	7	—	?	Acute inflammation and swelling subsided in 3 days on sodium fusidate, wound from incision and drainage healed completely by 7th day.
2	18	M	Multiple impetiginous ulcers of legs	0	None	500	14	—	?	Complete cure rapidly progressing pustular eruption.
13	17	M	Abscess of lower lip	0	None	500	7	—	?	Improved promptly after incision and drainage and seven day course of sodium fusidate.
12	46	M	Acute and chronic sinusitis with purulent drainage	36	Chloromycetin Na oxacillin Erythromycin Kanamycin Mysteclin Tagopen	500	14	—	?	Purulent drainage decreased in 2 days, disappeared in 7 days. Concomitant phenylephrine nose drops used. Clinical cure.

seven. Recurrences occurred in 24 patients. Kimmig and Meyer-Rohn[10] treated 58 patients with staphylococcal infections of the skin (pyodermas, furunculosis, and abscesses) with very good results. In addition, they treated 20 cases of acne vulgaris with sodium fusidate and compared the results obtained with tetracycline therapy. They found that the acute stage of pustular formation subsided equally rapidly with either drug, and long-term administration had equally favorable results. Porter and Wilson[12] reported that sodium fusidate effectively controlled antibiotic-resistant staphylococcal infections in 16 nurses, including ten with hand infections, five with boils, and one with tonsillitis.

On the basis of these encouraging reports, we have studied the effect of sodium fusidate in a small number of patients with superficial staphylococcal infections.

Methods and Materials

This study included 13 patients, nine males and four females between the ages of eight and 56 years. The diagnosis and relevant information for each patient is shown in Table 1.

In five of the patients the infection had recurred, over periods of two to 12 months, after initially responding to treatment with other antibiotics. The remaining patients had not previously been treated with antibiotics for this infection.

Prior to treatment with sodium fusidate, swabs were taken for culture from one or more lesions of each patient. All staphylococci isolated were tested for coagulase production. Staphylococci from nine of the 13 patients were also tested by the tube dilution method (Table 2) for sensitivity to penicillin g, methicillin and sodium fusidate.

Each of the patients was treated with sodium fusidate (Fucidine*) administered orally as 250 mg capsules. The dosage for 11 patients was 500 mg (two capsules) three times a day throughout the course of treatment. One patient, an 8-year-old boy, was given 250 mg (one capsule) three times a day and one adult patient had the dosage reduced, after three days, from 500 mg to 250 mg three times a day, because of nausea and vomiting with the higher dose. The duration of treatment varied from five to 20 days.

No other antibiotic therapy was administered during the trial, the only concomitant therapy being the usual measures of incision and drainage when necessary. Patient No. 12 received phenylephrine nose drops concomitantly.

A coagulase-positive *Staphylococcus aureus* was isolated from each 12 patients of the series, and a coagulase-negative *staphylococcus aureus* was recovered from one patient. The relevant data concerning the antibiotic sensitivity patterns are shown in Table 2.

The clinical results of treatment with sodium fusidate were uniformly good (Table 1). Clinical cure with complete clearing of the lesions was seen in all the patients. Recurrence of furuncles occurred in two patients after one course of treatment with the antibiotic, but both patients responded to a second course, without recurrences for periods of 26 days in one and 56 days in the other.

Three patients reported symptoms of nausea, and another experienced nausea and vomiting after ingestion of sodium fusidate. In two of these patients, the nausea was not severe enough to require a change in treatment, and the nausea in one patient was relieved by taking the drug with food or milk. In the fourth patient, both nausea and vomiting disappeared after the dose of sodium fusidate was reduced from 500 mg to 250 mg three times a day. No toxic or allergic side effects were seen in any of the patients.

Examination of the blood and urine (CBC, BUN or NPN, and routine urinalysis) in seven patients before and after treatment with sodium fusidate revealed no abnormalities attributable to the drug. Serum glutamic oxaloacetic transaminase (SGOT) determinations were within normal limits (5 to 40 units/ml), both before and after treatment in all cases.

Comment

The results of this clinical trial confirm the effectiveness of sodium fusidate in the treatment of superficial staphylococcal infections. However, no definite conclusions can be drawn from these results as the series is too small to be statistically significant, and there were no control patients. Nevertheless, the results obtained do indicate that more extensive trials of sodium fusidate in the treatment of superficial staphylococcal infections would be warranted.

The fact that there is no cross-sensitivity between sodium fusidate and penicillin-G or other

(*Continued on page 141*)

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* The sodium fusidate used in this study was supplied by The Squibb Institute for Medical Research, New Brunswick, New Jersey.

TABLE 2

ANTIBIOTIC SENSIVITY PATTERNS OF ISOLATED PATHOGENIC STAPHYLOCOCCI

Patient Number	*Penicillin G*	*Methicillin*	*Sodium Fusidate*
1	>100	3.12	0.20
2	>100	3.12	0.20
3	>100	3.12	0.15
4	>100	3.12	0.07
6	>100	2.50	0.30
8	10.0	2.50	0.60
11	10.0	2.50	0.60
10	>100	5.00	0.15
13	10.0	2.50	0.30

penicillins makes it a valuable alternative in the treatment of patients allergic to penicillin.

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Continuous Intra-Arterial Regional Infusion (Cont'd)

schedules until more effective ones are found. The second is a search for factors with predictive value which allow patients likely to derive significant benefit from the therapy to be selected. The third is investigation of the value of combined infusion and surgery or irradiation for enhanced palliation or definitive primary therapy.

SUMMARY

Forty-six patients with a variety of advanced or recurrent malignancies were treated with continuous intra-arterial infusion chemotherapy at EFSCH between October 1964 and September 1966. The complications and results of this method of therapy are presented and discussed.

Regressions of epidermoid carcinomas of the head and neck, uterine cervix and of an adenocarcinoma of the colon and a reticulum cell sarcoma of the lower extremity were observed and associated with variable palliation, but the effects were generally of brief duration.

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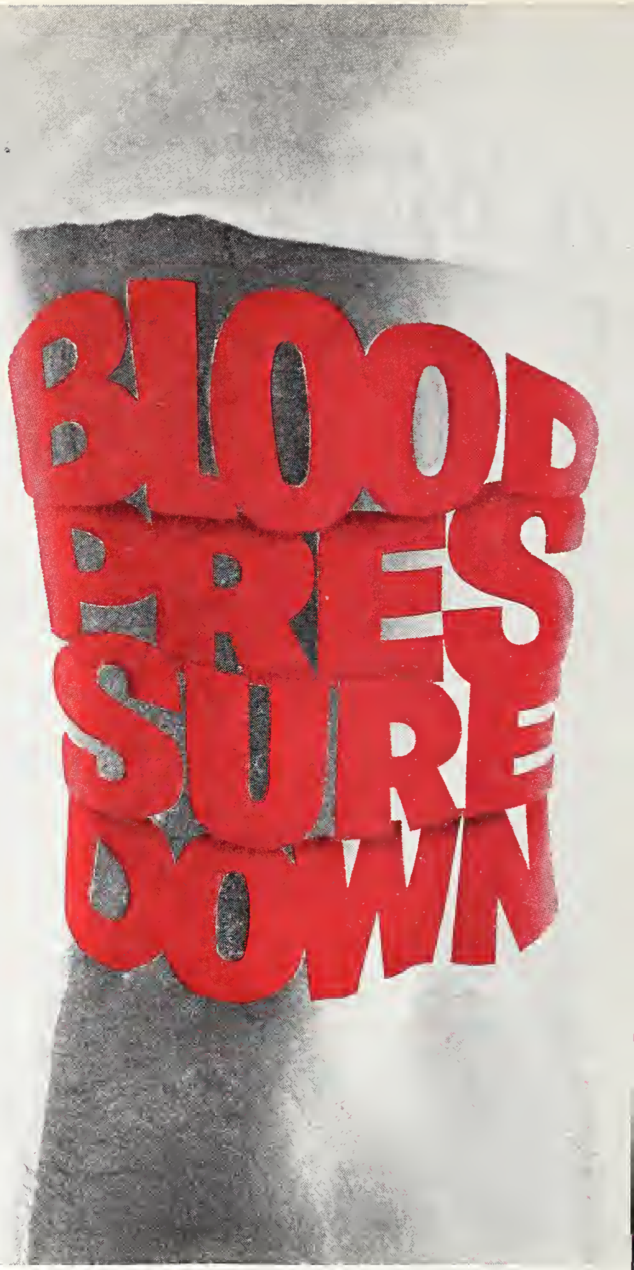
When thiazide or reserpine alone won't keep



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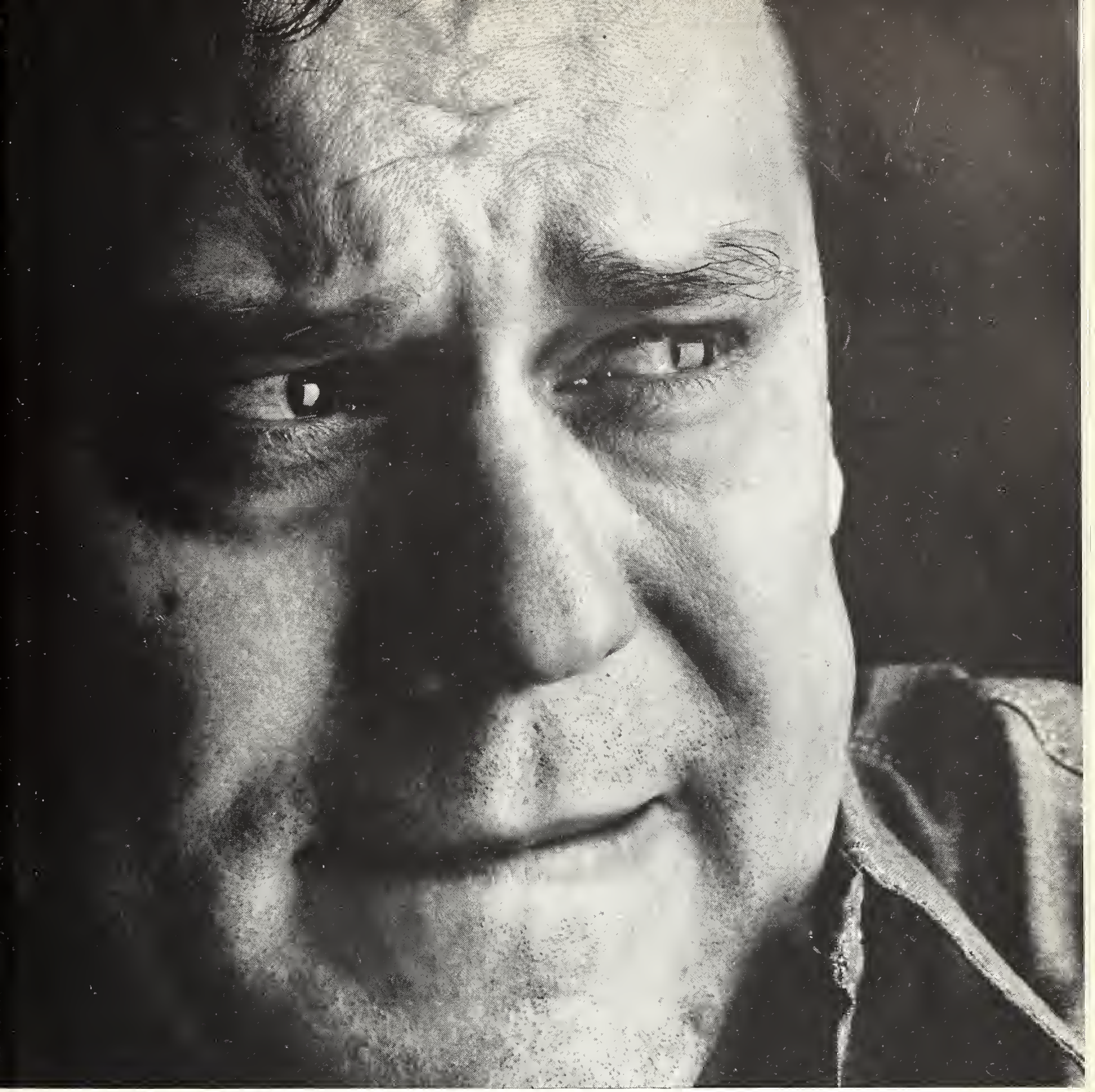

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Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second and fourth Wednesday of each month.
St. Louis Medical Society—second Wednesday of each month, September through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

On January 4, 1967, Governor Warren E. Hearnes went before a joint session of the 74th General Assembly to outline his legislative program for the year. The Governor covered a wide range of subjects, all of them important in their own way to certain segments of the population. Missouri physicians and the State Medical Association listened for what the Chief Executive might have to say regarding implementation of Title XIX.

The Governor noted that in the past Missouri physicians have been generous in their service to patients who needed care but were unable to pay for it. He recommended that this situation be changed and that payments be made to physicians who treat persons on public assistance. The Governor also proposed that: (1) out-patient hospital care be provided for recipients of public assistance; (2) assistance payments be authorized for persons over 65 years of age in state mental institutions; and (3) the beneficiaries of Aid to the Blind and State Blind Pension programs be made eligible for in-patient hospital care, out-patient care, prescribed drugs, dental and physicians' services. In short, Governor Hearnes recommended partial implementation of Title XIX in Missouri.

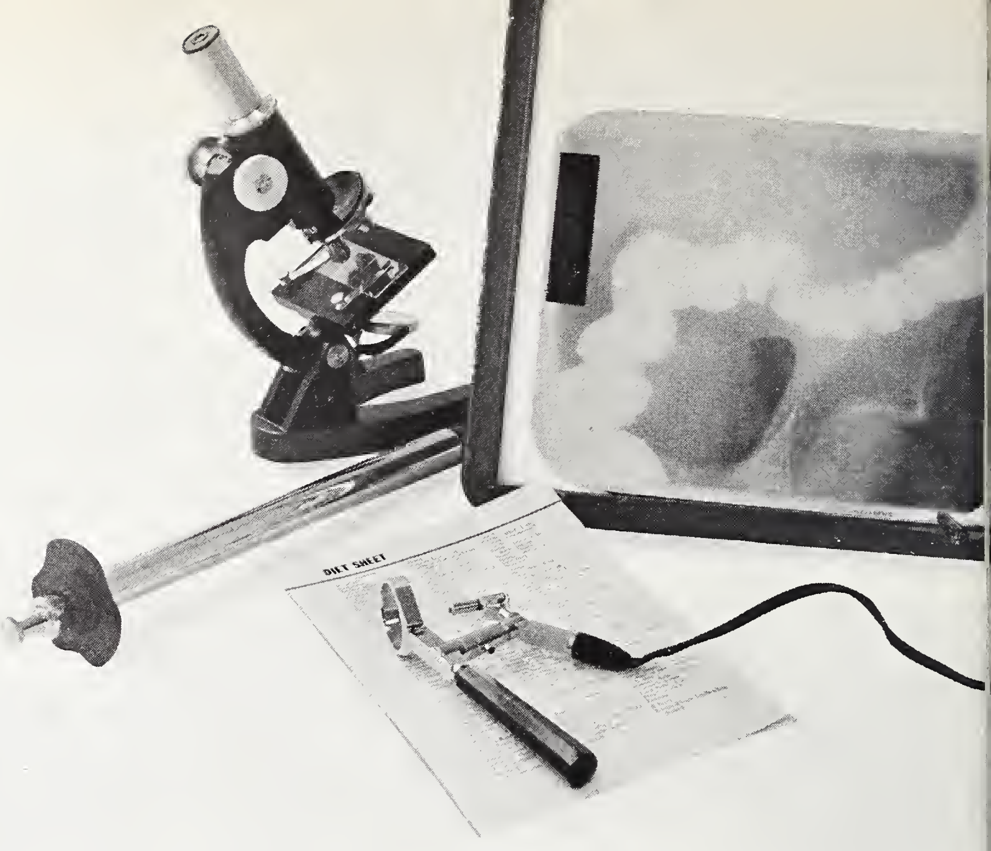
Certain groups undoubtedly will be critical that the Governor has not offered a full and comprehensive Title XIX plan. Possibly, there would have been some personal political benefit to him if he had seen fit to endorse all-out implementation. We believe, however, that he is to be congratulated for sticking with a practical and fiscally sound plan of progress.

The Governor and his advisers apparently decided that the state can finance a limited Title XIX program without additional taxes, that the limited approach will provide the Division of Welfare with experience which will be useful when full implementation of Title XIX comes, and that the "go slow" approach will provide breathing time during which Congress may make some significant changes in the basic law.

Byron M. Stuart, M.D.

The Missouri State Medical Association is on record as favoring implementation of Title XIX, but has taken no position on the speed with which the final objective is to be accomplished. The Association's Legislative Committee and Council have studied the subject at length, and it is of interest to note that they reached the same conclusion that the Governor and his advisers reached.

Missouri has lagged behind many states in recent years in its medical-welfare programs. Undoubtedly, there are valid arguments in support of an *immediate* "catch up" program, even though it would risk fiscal overextension and/or administrative confusion. It would appear, however, that Missouri and Missourians would gain more effective benefits by doing their "catching up" in a *sure and deliberate* manner . . . as proposed by the Governor.



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B and C vitamins aid therapy. Nausea, vomiting, and severe diarrhea ma seriously interfere with the digestion and absorption of nutrients. STRESSCAP capsules, containing therapeutic quantities of vitamins B and C, may help me the needs of these patients. In digestive disorders, as in many stress condition STRESSCAPS vitamins aid therapy.

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Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
Vitamin B_2 (Riboflavin)	10 mg
Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

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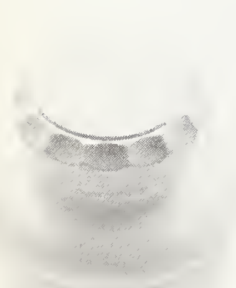


Woman's Auxiliary

To KNOW YOUR AUXILIARY, Doctor, it is well to be informed about *Direct Service Projects* established by our national auxiliary president, Mrs. Asher Yaguda. In last month's MISSOURI MEDICINE, one project was discussed: Volunteer Friendly Visitors. The other two are Homemaker Service and Meals-on-Wheels.

Mrs. Wallace R. Stacey

Homemaker Service is designed to help individuals—whether children or adults—to remain in their own homes when illness, old age, death, ignorance, social maladjustment or other problems threaten family life. Auxiliaries, with the full backing of their medical societies, can provide leadership in helping volunteer organizations establish Homemaker Service for an entire community.

Meals-on-Wheels began in England during World War II. In 1960, the San Francisco auxiliary sponsored the first Meals-on-Wheels project in the U. S. Three times a week they deliver a hot noon meal, a cold evening meal and supplies for breakfast. Needy "clients" are referred by doctors, the homemaker service, visiting nurses, etc.

The Missouri State Auxiliary can make available to any county auxiliary detailed information on any of the Direct Service Projects. Let's do more than live and let live—let's live and *help* live.

Let's get
down to earth
about
diuretics

EDITORIALS

There has been increasing interest in recent years in possible revision of long-standing laws relating to therapeutic abortion. This controversial subject has scientific, legal, moral, ethical and religious facets which make simple analysis impossible. The brief discussions offered here represent two differing viewpoints. We presume that neither author would suggest that his statement is exhaustive or includes all variations of opinion within any given group. It is anticipated that further discussion of this subject can be accomplished in "Letters to the Editor" . . . with the usual understanding that they come from MSMA members, are signed, pertinent and temperate.

J.V.F.

DECISION . . . IN THE WRONG HANDS

The decision in Missouri to perform an abortion is not in the hands of the members of the medical profession but is lodged in the law written by a group of elected public officials (some farmers, some lawyers, some business men, some professional politicians). That is wrong.

The decision should be a medical one. The result of the decision can have a tremendous effect on the physical and psychological well-being of the pregnant woman involved.

In Missouri we live under many antiquated laws written by non-medical zealots who have confused medical necessity with their own interpretation of the moral values of their day. Today pregnancy resulting from rape or incest must go on to its physical conclusion: birth. Medical science does not have the right to solve the psychological problem of the pregnant woman. She, in the fulfillment of her own logic and reason, must resort to the quack, the untrained, or the village midwife.

It is believed that in Italy more than 40,000 women die each year as a result of about a million illegal abortions being performed. These figures, coming from a country where church membership is amost equal to the population and where, we believe, church edicts are strictly obeyed, leave us astounded and appalled.

Closer home we may be even more shocked if we could learn of the number of illegal operations performed annually and the number of deaths following as a result of these operations.

Theologians of the Dark Ages (and political leaders following their leadership) may have been convinced of the validity of their conclusions regarding abortion. Modern, enlightened, civilized man however should no longer let the matter be decided by an obsolete law perhaps written 100 years ago.

The decision is a medical one—not theological—not political. The time has come for the medical profession to make all the decisions in this field, decisions that may (and often do) affect the physical and mental welfare of the patient involved. Now the patient's future is decided not by logic, not by reason, but by an obsolete law written by some who (rather than make enlightened progress) would fall back on the old bromide, "It was good enough for mother, and it's good enough for me."

Well, it isn't. It should not be. Missouri could be the first State in the Union to move into the twentieth century. WHY DOESN'T IT?

Reprinted from
St. Louis County Medical Bulletin

THE ABORTION LAWS

Many conscientious physicians feel themselves hobbled by the present abortion laws.

A further problem arises when an attempt is made to word a statute inclusive enough to permit the exercise of medical judgment yet restrictive enough to prevent abuse.

Each case is so unique that it is almost impossible to word an ordinance to provide for every possible combination of circumstances. Yet the statute must be phrased in general terms leaving the medical decisions to two or more physicians, selected according to various proposals for statutory reform. In legislative reform, we must guard against providing a latitude which would make it possible for the unethical to exploit the new freedom under a cloak of legality.

Medical indications for abortion are now rare and many fetuses have been sacrificed for now discredited medical indications. Physicians under pressures from distraught patients will have difficulty determining just where to draw the line and how to avoid the rationalization, "if I don't do it, somebody else will."

There can be no doubt embryologically that the fetus is human from the time of conception so, if its destruction is to be sanctioned, let's be sure there is good cause.

By all means, let's rewrite the law in the interests of maternal health, but let's be sure it's a better law.

E. G. HAMILTON, M.D.

HORIZONS UNLIMITED

When parents and their teenage offspring begin pondering the merits of a career in medicine or one of its allied fields, it is only natural that they should turn to you, their physician, for advice and counsel.

And, if you are typical of most physicians, you have no doubt experienced a mounting number of such personal requests in this era of unparalleled and steadily expanding opportunities in medicine and the entire health field.

If such is the case, you can do both yourself and those making career inquiries a favor by looking to the AMA for a helping hand to augment any personal advice or suggestions that you have. As a service to members, the Association offers a variety of complimentary literature and other aids describing guidelines for students seeking to prepare for rewarding careers in medicine or its allied fields.

Although the AMA has been conducting an extensive careers program since 1960 to encourage qualified students to embark upon medical study, some physicians are not yet personally aware that literature is available to them without charge.

Nor is the extent of this programming effort known. Interest in medicine and allied careers has snowballed to the point where the AMA currently handles up to 35,000 individual careers inquiries annually from physicians, individuals in allied professions and occupations, members of women's auxiliaries, counselors, libraries, students and parents. That is an average of 130 inquiries per working day. But during peak periods—October-November and March-April—when many schools and communities conduct special careers programs, as many as 300 a day are received.

Since 1960 the AMA has expended more than $750,000 in developing and carrying out its comprehensive careers programming effort.

The AMA's latest contribution to health careers literature is the colorful, 144-page paperback, *Horizons Unlimited,* introduced last April. Designed primarily for upper high school and beginning college students and those concerned with counseling, the two-part publication covers medicine in depth and highlights career opportunities existing in eight major allied fields.

Attesting to the popularity of this timely publication with physicians, counselors, students, medical schools and others actively concerned with health careers informational programming is the fact that more than 125,000 copies have been distributed in eight months.

Many physicians are distributing copies of this publication to members of Future Physicians Clubs or Medical Explorer Posts which they advise. Others have found it beneficial to place a copy or two in their reception rooms where it can call patients' attention to the fact that opportunities abound today in medicine and its allied fields because of the medical team's ever-expanding efforts to improve and expand health care services and the public's increasing demand for more and better medical care.

HERE WE GO AGAIN (OR) IT GRIPES MY SOUL

"I won't vote when a ballot lists no opposition. I just throw the ballot in the waste basket." "The Medical Society is still run by the same guys who have been running it for 25 years." "When is the *Medical Society Bulletin* going to quit printing editorials which have Birchist viewpoints?" (or "ideas which are so far to the left," or ". . . so far to the right" or ". . . are so conservative" or ". . . are so radical").

I have heard these statements so often during the past several years, and, boy, do they gripe my soul! I never get a decent answer when I retort, "Why don't you do something about it?" or "When was the last Medical Society meeting you attended?" or "Have you ever risen to propose or oppose motions in a business meeting?" or "Have you ever nominated anyone for office?"

The statement that topped them all and has bothered me the most was, "I've been a member of the Medical Society for 27 years and I've yet to be placed on a committee." When I asked the so-called member how many times he had attended regular Society meetings, his answer was "three times." In addition to these two meetings, which had made him eligible to become a member of the Society, he had attended one special meeting.

If some of these "Members" would quit griping in the hospital halls and staff rooms and would start attending meetings, they could have their say-so. They could nominate whomever they pleased for officers in the Society. They would be placed on committees. They could possibly be placed on the editorial staff of the *Bulletin.* They might even be nominated for office themselves.

If you want your Medical Society to really be YOUR Medical Society, take an active part in its functions. *Your voice can be heard.*

NOW, PUT UP OR SHUT UP!!

MELVIN SCHWARTZ, M.D.
President-Elect
St. Louis County Medical Society

ABOUT DRUGS

Home Brew—Schlitz—Heineken's? It's all beer, isn't it? Chemical analysis would show it the same. Generic name—beer. If we carry over into commercial foods and beverages the desires of the Great Society, you couldn't order Hamm's or Schlitz or Budweiser or Falstaff. All you could say is beer and take your chances.

Now we are supposed to do this with the drugs we order: generic name—and if the law becomes effective, the cheapest one is to be given.

But then, what do you expect from an outfit that doesn't honor its own patent laws?

A pharmaceutical house spent untold amounts to bring out tetracycline. The patent was issued. There are no patents issued on chemical processes in Italy. A company there made the drug—maybe generically the same, but who knows otherwise. The government purchased this product because it was cheaper.

It was tested—home brew tests the same as Falstaff, but what a difference!

Again you as a physician can do something about it—personal letters to your congressmen. When are you going to react to the stimuli?

E. H. STRATEMEIER, Editor
Greater Kansas City Medical Bulletin

In Memoriam

Threadgill, Jesse M., M.D., Forsyth, a graduate of St. Louis College, 1920; member of Ozarks Medical Society; aged 68; died November 25, 1966.

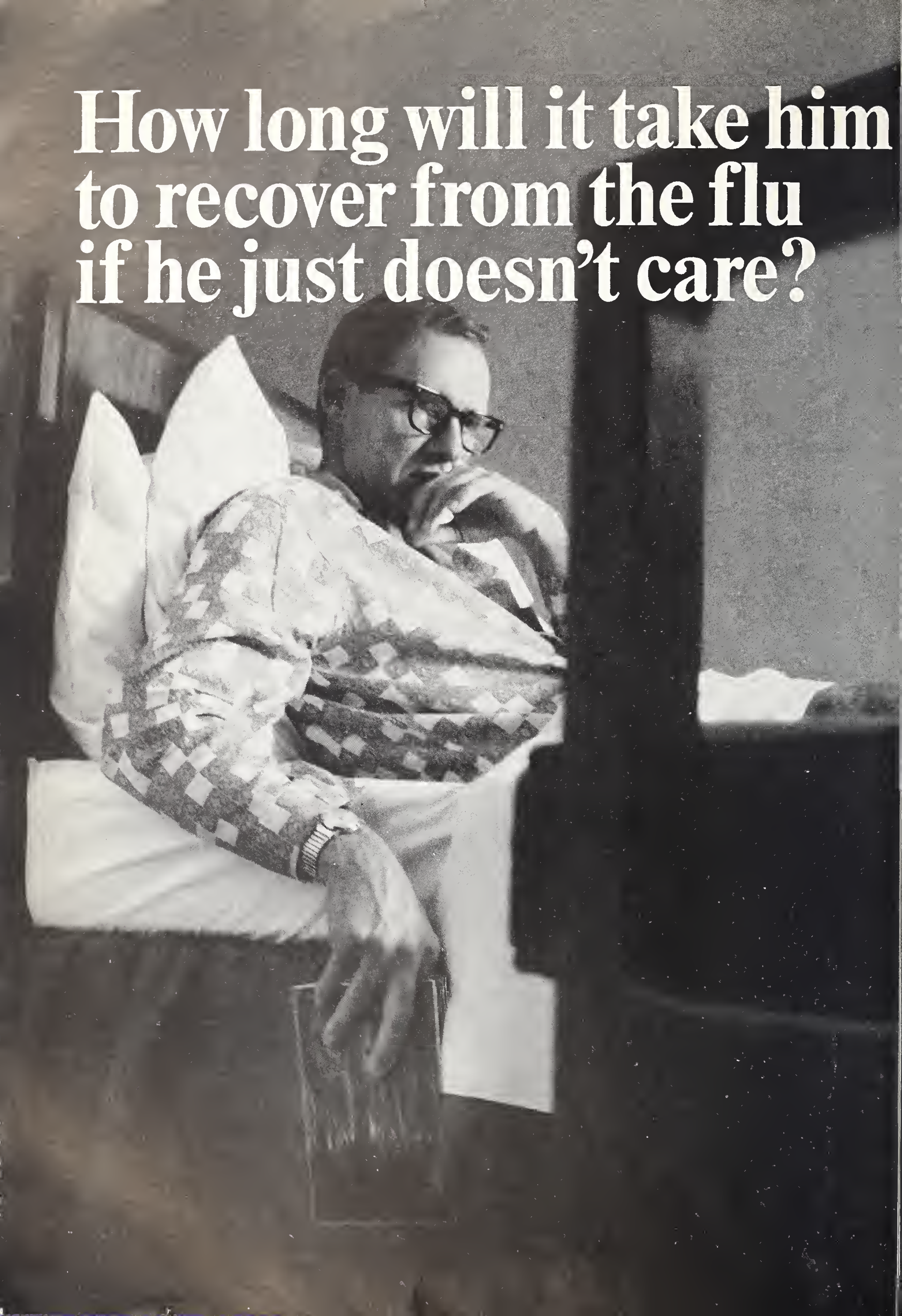
McCallum, A. J. C., M.D., Aurora, a graduate of the University of Manitoba, 1942; member of Ozarks Medical Society; aged 49; died December 7, 1966.

Brandon, Walter Lee, M.D., Poplar Bluff, a graduate of Loyola University, 1916; member of Butler-Wayne-Ripley County Medical Society; aged 72; died December 14, 1966.

"COCA-COLA" AND "COKE" ARE REGISTERED TRADE-MARKS WHICH IDENTIFY ONLY THE PRODUCT OF THE COCA-COLA COMPANY.

Coke
Coca-Cola
For the taste
you never
get tired of.

How long will it take him to recover from the flu if he just doesn't care?



Does he really care? Is he alert, encouraged, positive and optimistic about getting out of bed and back to work soon? Or is he giving in to the depressing impact of confinement? When functional fatigue complicates convalescence, Alertonic can help...

Pleasant-tasting Alertonic is pipradrol hydrochloride —an effective cerebral stimulant whose gentle analeptic action helps counteract the apathy and inertia that so often delay convalescence—together with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

Nothing fosters confidence and a sense of well-being better than your own personal warmth, understanding and encouragement together with Alertonic to help insure prompt response.

Adequate dosage is important: Prescribe Alertonic— one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

Alertonic®

Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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AMA Increases Public Info Efforts

The American Medical Association is stepping up its program to inform the American people about chiropractic—named by the AMA as "an unscientific cult."

In a recent communication to the Special Subcommittee on Employees' Compensation of the U. S. Senate's Committee on Labor and Public Welfare, AMA Executive Vice President F. J. L. Blasingame, M.D., explained why physicians and the AMA are so opposed to chiropractic.

"Chiropractic is not based on scientific principles," said Dr. Blasingame, "The medical profession regards chiropractic as a cult, because it follows the hypothesis of its founder that disease results from pressure on nerves due to minor misalignments of the spinal column. Based on such a premise, chiropractors claim that such conditions as allergies, diabetes, heart trouble, tonsillitis and even cancer, to name a few, can be cured by adjusting or manipulating certain areas of the spinal column. Such a theory, of course, runs counter to the established facts of medical science."

"Chiropractors," said Dr. Blasingame, "are not educated or equipped, either by background or training, to diagnose human illness. This inability, coupled with their pseudo-scientific method of treatment and their vociferous stand against life-saving vaccines and against the well-recognized advances of the medical profession in the control, diagnosis, treatment and prevention of disease requires, or perhaps demands, that no consideration be given them."

A recent article in The Journal of the AMA points out that "The medical profession is faced with a continuing conflict between scientific medicine and cultist practices. This conflict is one that affects the life and health of thousands of persons.

"Doctors of medicine oppose cultist practices," said the JAMA article, "not because of any fear of competition, but from the desire to protect the public from the hazards of such practices. At best, cultist 'treatment' of sick or injured persons is ineffective. It is harmful primarily because it keeps the patient from receiving effective medical care. It also leads to payments for services which are of no benefit.

"Perhaps the most common example of cultist practice is chiropractic. No scientific proof has ever been offered to support the theory of chiropractic and it has never been accepted as valid by any recognized scientific body."

In a Data Sheet on chiropractic, the AMA points out that "forty-eight states impose license limitations, prohibiting chiropractors from prescribing drugs and performing surgery. Two other states—Louisiana and Mississippi—do not issue even limited licenses."

The number of chiropractors in the United States is uncertain, the Data Sheet reports. The latest census states there are 14,360. The American Chiropractic Association and the International Chiropractors Association, in their literature, claim there are approximately 25,000 chiropractors in the United States. There are 12 schools of chiropractic, but none are accredited by any recognized educational accrediting body. The only stated "requirement" for admission is a high school diploma, and a recent study of "admission requirements" showed that many of the schools do not require even high school graduation. The majority of instructors in most chiropractic schools are not trained or qualified as teachers of the basic sciences and do not possess college diplomas.

A new AMA pamphlet, "Chiropractic: The Unscientific Cult," points out that "since the birth of chiropractic in 1895, the medical profession has been warning the public of the hazards involved in entrusting human health care to these cult practitioners.

"The House of Delegates, governing body of the AMA, has said: 'Either the theories and practices of scientific medicine are right and those of the cultists are wrong, or the theories and practices of the cultists are right and those of scientific medicine are wrong.' "

At the AMA's Third National Congress on Medical Quackery in Chicago, chiropractic was the theme of a half-day session on the program. Eugene Robillard, M.D., Associate Dean of the Faculty of Medicine of the University of Montreal, reported to the Congress on a recent study of chiropractic by the College of Physicians and Surgeons of Quebec.

"The College," said Dr. Robillard, "condemns chiropractic because chiropractic is false theory; the education of chiropractic is below acceptable standards; and because chiropractic is dangerous."

On the same program, H. Thomas Ballantine, Jr., M.D., Boston neurosurgeon and Harvard Medical School instructor, declared: "The confrontation between medicine and chiropractic is not a struggle between two 'professions' but, rather, is more in the nature of an effort by an informed group of individuals to protect the public from fraudulent health claims and practices.

"Who are the quacks?" Dr. Ballantine asked.

"Are they the physicians in our society who believe that different diseases have different causes and require different methods of treatment, including the use of medicine and surgery?

human ailments or disease are the results of a displacement of the spinal column, and that by ascertainment of the subluxation (partial dislocation) of the spine and by proper adjustment to relieve the pressure on the nerves, the cause of the disease is removed?"

Or, are they individuals who believe that most

Continuing Education Coming Events

Feb. 9	**Conference—Hematology: Utilization in Clinical Diagnosis** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Feb. 28-Mar. 3	**"Oncology: A Curriculum on Cancer for Practicing Physicians"** (Two 18-hour courses) Menorah Medical Center, Kansas City
Mar. 1	**Post-Graduate Conferences for Practicing Physicians** Department of Internal Medicine St. Louis University School of Medicine Cardinal Glennon Hospital Auditorium, St. Louis (6 hours)
Mar. 8-9	**Conference—Management of Common Fungal Diseases** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Mar. 31-Apr. 1	**19th Annual Midwest Cancer Conference** "Cancer in Children" Lassen Hotel, Wichita, Kansas
Apr. 13	**Conference—Inflammatory Diseases of the Liver** Continuing Education, M.U. School of Medicine Medical Center, Columbia
May 10-11	**Conference—Hypertension** Continuing Education, M.U. School of Medicine Medical Center, Columbia

County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

Fifty-two members and guests of the Grand River Medical Society and Auxiliary met in Chillicothe on December 8 for a gala Christmas Party. We were especially happy to have as guests Dr. Byron Stuart, president of MSMA, and Mrs. Stuart; Ray McIntyre, Executive Secretary of MSMA, and Mrs. McIntyre; Dr. Joseph Fisher of St. Joseph, First District Counselor, and Mrs. Fisher; and Dr. Joseph Martin of St. Joseph and Mrs. Martin.

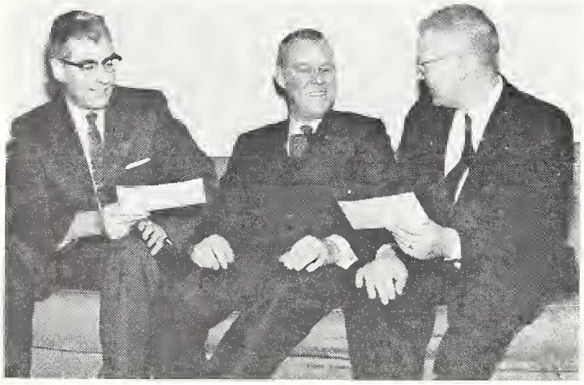
As usual, the drug company representatives did a fine job with refreshments. Those present were from Pfizer, Squibb, Geigy and Hoerscht.

Following the business meeting, Dr. Donald Dowell, Chillicothe, presented a plaque to Dr. Joseph Gale, Chillicothe, our president during 1966, in appreciation for his many contributions to the Society during his term of office.

Sharon Sweiger, daughter of Dr. James Sweiger of Maysville, entertained by singing several Christmas selections.

The meeting was closed with group singing of several Christmas songs, with Mrs. Ralph Bohnsack of Brookfield at the piano.

Albert D. Cross, M.D., *Secretary*



Dr. H. E. O'Keeffe (left) and Dr. Robert A. Mayer (right) express appreciation to LeRoy "Bill" Weidle of the Knight Drug Company in St. Louis for that organization's gift of $1,000 to the Dental and Medical Student Loan Funds. Mr. Weidle commented, "This is the easiest and most wonderful Christmas shopping I do. The best part is that I spend all I have to spend for gifts at one time, and yet provide for some boy's or girl's dental or medical education sometime in the distant future." Dr. O'Keeffe is president of the St. Louis Dental Society and Dr. Mayer is Councilor of the 4th District, Missouri State Medical Association.

Buchanan County Medical Society

Ninety physicians and their guests attended the Buchanan Medical Society meeting on January 4 in St. Joseph. Dr. Irwin Rosenthal, President, presided. Speaker was Dr. Edward Diethrich, Instructor in Surgery at Baylor University College of Medicine. Originally scheduled for the program was Dr. Michael E. DeBakey, heart surgeon in Houston, who was unable to be present and sent Dr. Diethrich, his associate, in his place. Dr. DeBakey rescheduled his appearance in St. Joseph for May 3. Dr. Diethrich discussed, in a well illustrated paper, recent advances in heart surgery. A spirited question and answer session followed his presentation.

Arrangements for the program were made by members of the Society's program committee. They are Drs. Charles R. Willman, Chairman; R. Philip Acuff and Richard O. Craig. Dr. Charles R. Willman introduced the speaker.

Maxwell Day, M.D., *Secretary*

FOURTH DISTRICT

COUNCILOR
ROBERT A. MAYER, M.D., CLAYTON

St. Louis County Medical Society

Dr. C. Read Boles was installed as president of the St. Louis County Medical Society on January 11 in Clayton.

Dr. Boles has been active in organized medicine for several years and has served four years as Treasurer of the County Society. He is a graduate of the Washington University School of Medicine (1943) and specializes in Pediatrics.

In October of last year, Dr. Boles was elected State Chairman of the Missouri Chapter of the American Academy of Pediatrics, and is now President-Elect of the Washington University School of Medicine Alumni Association.

Dr. Boles is Instructor of Clinical Pediatrics at Washington University School of Medicine, and is Vice-Chairman of the St. Louis County Health and Hospital Advisory Board.

During World War II, Dr. Boles served in the United States Army from 1944 to 1947, and was discharged with the rank of Captain. He is married, has three children, and lives on Bon Homme Road in Olivette.

Other new officers are Drs. Melvin M. Schwartz, President-Elect; Paul W. Miles, Vice-President; and Miles C. Whitener, Secretary. The County Medical Society was organized and chartered in 1903, and is now the third largest medical society in the State of Missouri.

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The December meeting of the West Central Missouri Medical Society was held in Harrisonville on December 8. A social hour and dinner preceded the program.

The meeting was called to order by Robert Magee, M.D., president. The scientific portion of the program was a presentation by William Eggers, M.D., from the Department of Anesthesia, University of Missouri Medical Center. Dr. Eggers discussed "Care of the Unconscious Patient." The presentation was well received by all present.

Following the scientific session, a business meeting of the Society was held. The Credential Committee presented the application of Jerald P. Lane, M.D., of Harrsonville. This application was approved by the Credentials Committee. On motion duly made and seconded, the application of Dr. Lane for membership in the Society was approved.

Dr. Alfred W. Eklund, the new president, was installed. Dr. Eklund thanked the society for electing him president for the coming year and asked for cooperation in carrying out the work of the organization.

There being no further business, it was announced that the next meeting of the Society would be in Nevada on January 12. The meeting was dismissed.

Roy W. Pearse, Jr., M.D., *Secretary*

Rheumatic Fever Seminars For County Medical Societies

The Missouri Division of Health, Missouri Heart Association and the Missouri State Medical Association are sponsoring a series of professional, postgraduate seminars on rheumatic fever for county medical societies in the state.

The two-hour seminars will feature well-known physicians who will devote the first hour to the diagnosis and medical management of the rheumatic fever patient. The second hour will be oriented toward the surgical management of the patient with rheumatic heart disease. Immediately following the first hour presentation, a representative of the Division of Health will briefly describe the Division's primary and secondary prevention programs for the diseases.

The Missouri Academy of General Practice has agreed to grant two credit hours to members who attend the seminars.

Rheumatic fever is still a problem. The Division of Health points out that there were at least 3,763 cases in Missouri as recently as 1961.

County Medical Societies interested in arranging the seminars are invited to contact Harry F. Kaphingst, Public Health Advisor, Missouri Division of Health, Jefferson City, Mo. 65101, for further information.

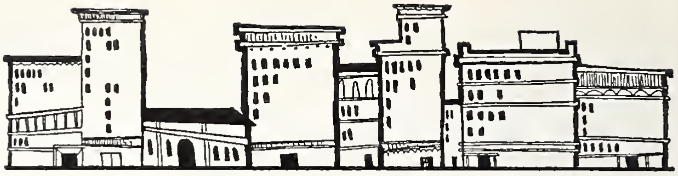
ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

Eggert-Carroll-Schroeder Agency, Inc.
111 North Fourth St., St. Louis 2, Mo.
(Eastern Missouri Administrators)

Altman-Singleton & Co.
114 W. 10th St., Kansas City 5, Mo.
(Western Missouri Administrators)

From the Medical Schools



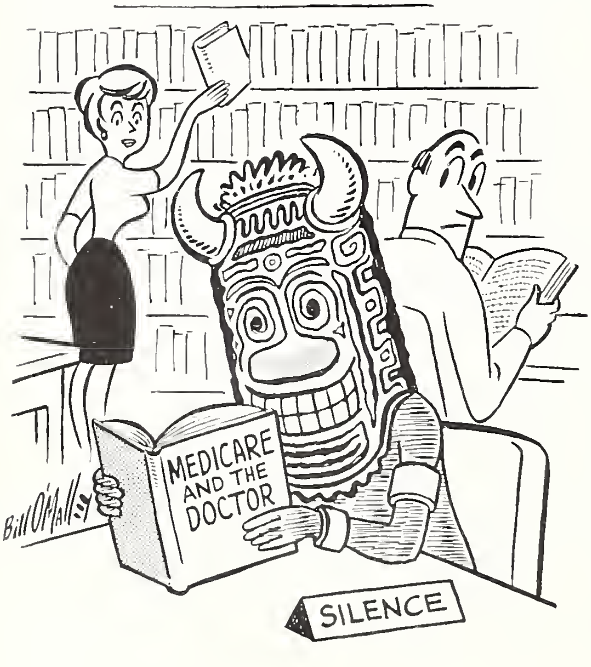
MISSOURI UNIVERSITY

The Missouri Institute of Psychiatry in St. Louis, an affiliate of the University of Missouri School of Medicine, will utilize a $39,104 grant to establish a "current awareness" service for the professional staff of Missouri's Division of Mental Health.

The aim of the centralized library service is to meet the current informational needs of the staffs of the ten established institutions of the Division and other new regional mental health centers. Other library and reference services will be provided where needs cannot be met at the local institutions.

The two-year research project also provides for a study of the value of the proposed system. The overall object of the program will be to develop a prototype for state hospital library organizations in other states.

Herlen O. Loyd, M.D., who was in private practice in Jefferson City from 1956 to 1960 and since then has been practicing in Sacramento, Calif., has joined the staff of the University of Missouri School of Medicine in Columbia. An associate professor in the Department of Medicine, he will be responsible for activities of that department in the out-patient clinics. While residing in Jefferson City, he held an appointment as a clinical associate professor of medicine at the University.



ST. LOUIS UNIVERSITY

New construction or renovation projects costing $7,370,000 have either been completed, are underway or are planned to begin in the next six months at the St. Louis University Medical Center.

Ten Medical Center projects costing $2,705,000 have been completed, two projects costing $3,100,000 are underway, and eight projects costing $1,565,000 are planned to begin in June of next year.

The current Medical Center development program began January 1, 1964 and is scheduled for completion December 31, 1969. It involves a total outlay of $16,500,000 for priority needs on the Medical Center campus.

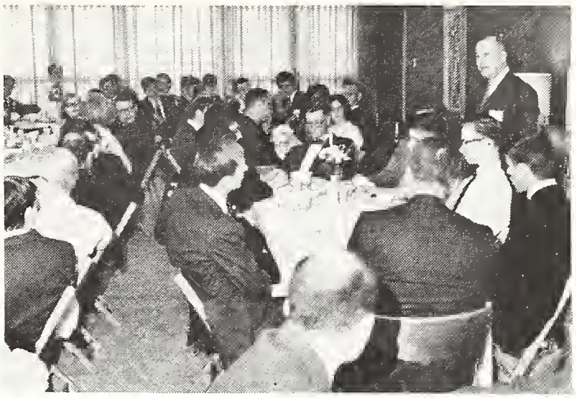
Of this $16,500,000, $2,475,000 has been allocated for the support of faculty salaries and student aid. The remaining $14,025,000 is slated for renovation or new construction projects.

WASHINGTON UNIVERSITY

Washington University School of Medicine and its Alumni Association recently were hosts to a group of St. Louis area high school honor students who have indicated a desire to study medicine as a career. This is the sixth year such an event has been held, and it is considered a successful venture.

The 28 students were given a varied day-long tour. After observing chest surgery, they were taken to the Irene Walter Johnson Rehabilitation Institute and the Edward Mallinckrodt Institute of Radiology. At noon, they visited the Olin Residence Hall where members of the Medical School staff and the Medical School Alumni met and dined with them. During the meal, there was

Dr. Guy Magness, Alumni Association Vice-President and University City physician, was master of ceremonies at the noon luncheon for St. Louis honor students at Washington University.


Dr. John C. Herweg, Associate Dean, spoke to the students about the medical school's future. He mentioned that six students who went on similar tours five or six years ago are presently enrolled at Washington University.

an active exchange of conversation concerning the medical profession.

Dr. Guy Magness, Alumni Association vice-president, was master of ceremonies. He introduced Dr. John C. Herweg, Associate Dean, who explained the aims of Washington University School of Medicine and medical schools, in general.

After the luncheon Dr. Mildred Trotter, Professor of Anatomy, conducted a tour through the Anatomy Department museum.

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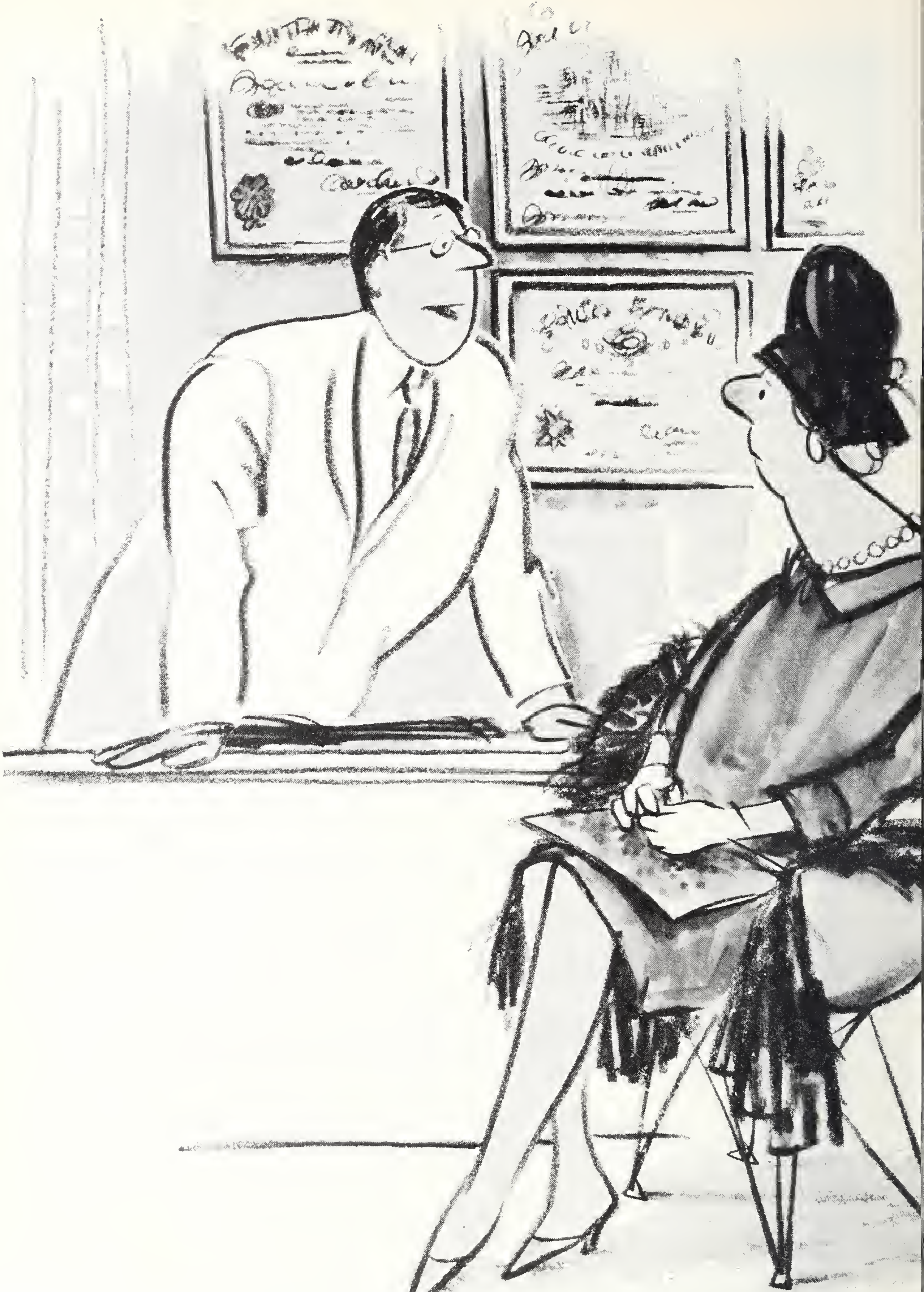

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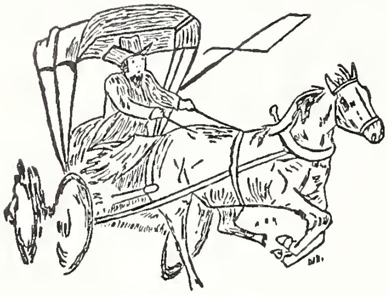
References: 1. Pillsbury, D. M., Shelley, W. B., and Kligman, A. M.: A manual of cutaneous medicine, Philadelphia, Saunders, 1961, p. 79. **2.** Barber, M., and Garrod, L. P.: Antibiotic and chemotherapy, Baltimore, Williams and Wilkins, 1963, p. 111.

LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

The books for winter reading offer a varied and wide selection. Of course, if you didn't read "Gentlemen Prefer Blondes" during the summer months, you will want to read about the little Arkansas girl who gets by in life by being "Oh, so nice" to the very nice men who have pocketbooks, and says, "A kiss on the hand is all right, but a diamond bracelet lasts forever." Anita Loos, the author, really has written a better book than most people believe. "Show Boat," by Edna Ferber, is a good book because it is different. We might have called it an historical novel before the law suits started, or rather threatened, but one would hesitate to say Miss Ferber was historically correct, because one might have to answer to the descendents of the characters of the story.

The Missouri-Kansas freshman football game at Rollins Field in Columbia on November 19, which was to benefit the Walter Camp Memorial Fund, was the first ever to be played between the freshmen of the two Universities.

The St. Louis County Medical Society held its annual dinner and election of officers at Van Horn's Farm on December 15. About 60 doctors and their families gathered and partook of a splendid chicken dinner, during and after which they enjoyed dancing and speeches.

TWENTY-FIVE YEARS AGO

The prompt response of erysipelas to sulfanilamide or one of its derivatives makes this the treatment of choice and renders other treatment measures obsolete, according to Doctors Robert E. Shank, Richard W. Maxwell and George S. Bozalis of St. Louis. The results they obtained in so treating 165 patients are reported in The Journal of the American Medical Association for December 27. In no instance was the lesion ever seen to spread after the first 36 hours of chemotherapy.

Dr. Hal Foster, Kansas City, retired on December 31 after 60 years of practice, 59 of them spent in Kansas City. Dr. Foster was the first Kansas City physician to specialize in ear, nose and throat work. He was the second secretary of the Jackson County Medical Society.

The St. Louis Surgical Society held its annual meeting on January 14. Officers elected for the ensuing year were Drs. O. B. Zeinert, president; M. B. Clopton, Treasurer; J. Barrett Brown, Secretary; R. E. Schlueter, Omar R. Sevin and Charles F. Sherwin, Directors.

TEN YEARS AGO

A 16 millimeter, sound print of the movie, "The Case of the Doubting Doctor," is available at the MSMA headquarters office for loan to county medical societies. This film is designed to set forth the many services of the AMA and to show the sound values of AMA membership to the individual doctor, as well as to the profession as a whole.

Hugh E. Stephenson, Jr., M.D., Columbia, has been named one of the ten outstanding men of the year by the United States Junior Chamber of Commerce.—New member of the council of the Southern Medical Association from Missouri is O. P. J. Falk, M.D., St. Louis.

The Menorah Medical Center, Kansas City, awarded a pin to David Dann, M.D., on December 21 for his service to the Center since its opening 25 years ago.

The Dunklin County Memorial Hospital staff re-elected C. R. Peck, M.D., Kennett, Chief of Staff; George Q. Dunmire, M.D., Vice-Chief of Staff; and Quinton Tarver, M.D., Secretary.

At a meeting of the Radiological Society of North America in Chicago on December 2-7, C. Edgar Virden, M.D., Kansas City, was installed as President.

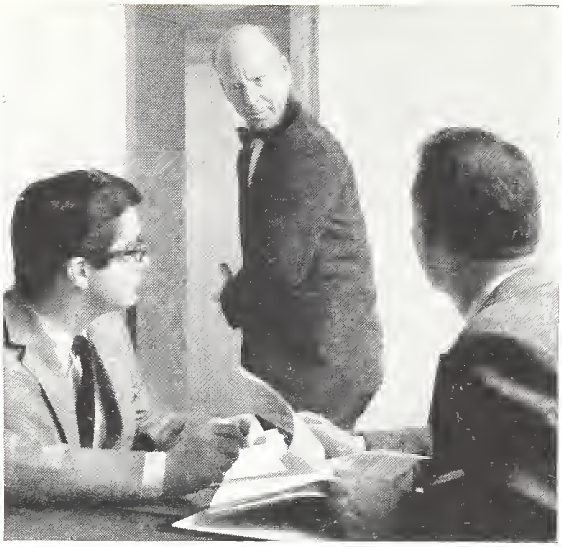
AMA . . . At Your Service

A limited supply of "Medicare and the Physician," the American Medical Association's 96-page reference guide of questions and answers dealing with Public Law 89-97, is still available. If you failed to receive your copy or need an additional one, you may obtain one by writing the Program Services Department, American Medical Association, 535 North Dearborn Street, Chicago, Illinois 60610. The publication explains provisions of the law, its limitations and procedures to be followed in a wide variety of instances.

Two booklets published in October by the AMA Department of Investigation are now available for your information and waiting room use. "Health Quackery" is a 16-page pamphlet discussing in simple language quackery's methods and their results. "Chiropractic: The Unscientific Cult" is a penetrating analysis of chiropractic. It documents what chiropractic says it is and what it pretends it be able to do and proceeds to refute it. Single copies of each publication are 15 cents. Bulk quantities are available at lower rates.

To help medical societies establish campaigns to combat venereal disease in their communities, the AMA's Health Education Department offers single copies of its special kit on VD. Designed for medical societies wishing to conduct comprehensive, communitywide health education campaigns, the kit contains 20 different types of promotional materials, including radio and television spot announcements and suggested scripts for special programming, speeches for physicians, newspaper articles and suggested editorials.

Committees on the medical aspects of sports who are planning meetings or conferences will find helpful assistance in "A Guide for Medical Evaluation of Candidates for School Sports" published by the AMA's Committee on the Medical Aspects of Sports, Department of Health Education. The pamphlet also assists the physician in conducting health examinations of the athlete.



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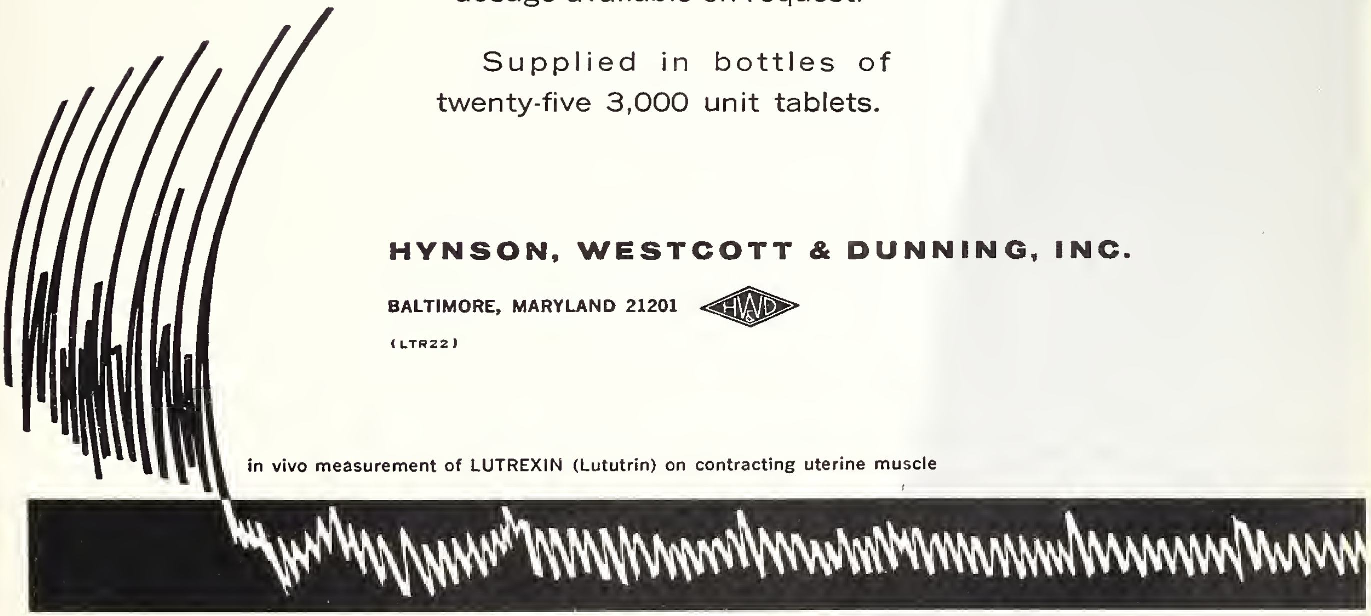

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Missouri Medicine

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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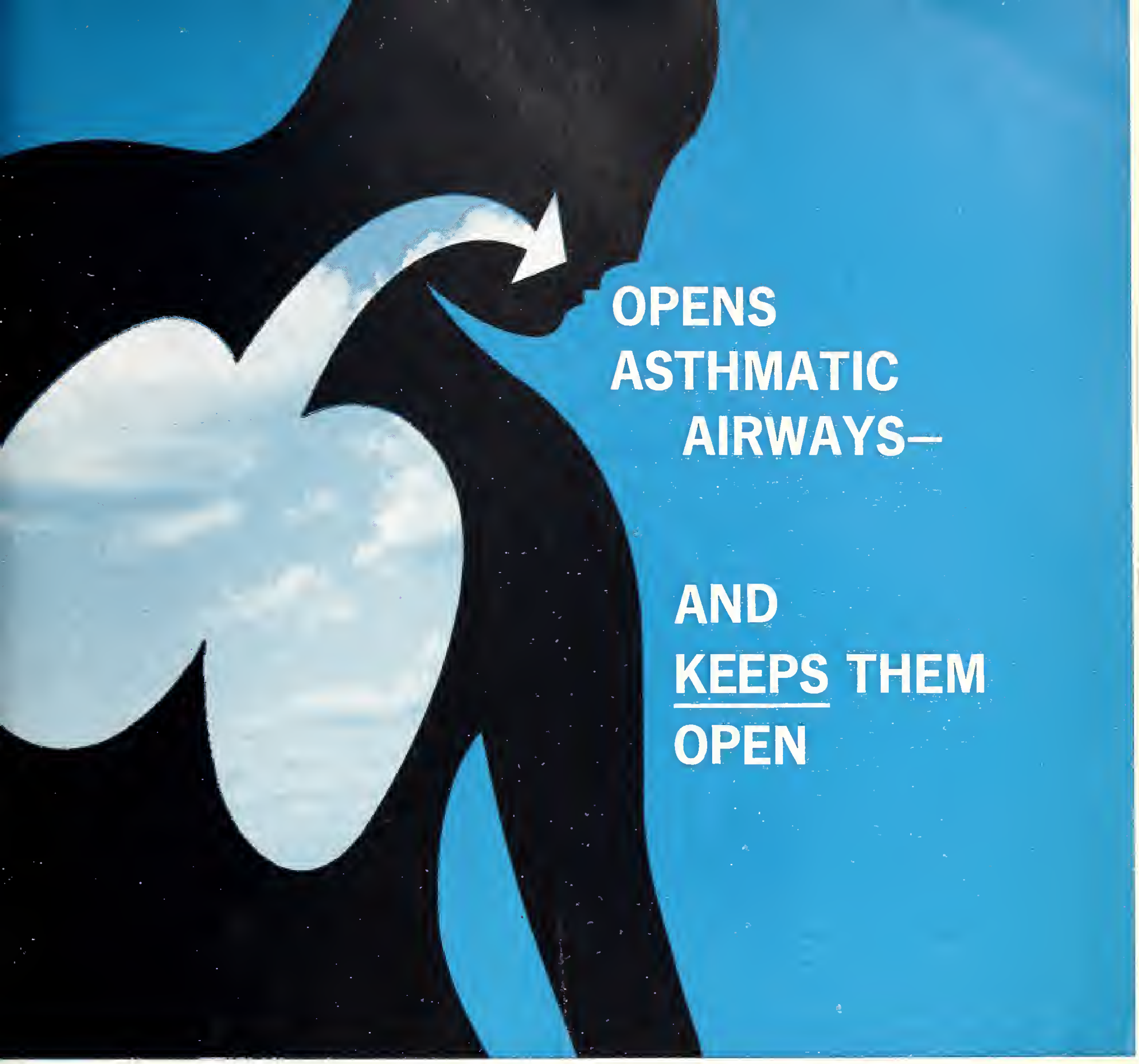

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IN THE LEGISLATURE

Members of Missouri's 74th General Assembly convened in the State Capitol in Jefferson City in early January and have been busy since then introducing proposed legislation at what may be a record rate. By the second week in February, more than 400 bills had been introduced in the House of Representatives and nearly 250 in the Senate. About 40 of these proposals related either directly or indirectly to medical and health matters.

Of special interest to the medical profession of Missouri this year are the bills involving implementation of Title XIX and reorganization of the State Division of Health.

Governor Warren E. Hearnes in his traditional message to the General Assembly recommended, in effect, a gradual implementation of Title XIX in Missouri, although he at no time mentioned the basic federal legislation by name. His ideas were presented to the lawmakers in a series of bills, the major one being Senate Bill No. 53. These measures would expand existing welfare programs in Missouri and would permit the state to move into a full Title XIX plan by action of the 1969 legislature. The administration maintains that this is the practical and fiscally sound method of attaining the ultimate goal. The Governor's program would provide outpatient services, limited nursing home services and physicians' services for the five basic categories of welfare recipients in Missouri. Its estimated cost is 12½-million dollars per year.

A true Title XIX program has been introduced in the House by Representative Thomas A. Walsh of St. Louis (HB 94). The bill as printed carried no fiscal note. Estimates of the cost range from 17½-million dollars upward.

John I. Matthews, M.D., MSMA Secretary and Chairman of the MSMA Committee on Legislative Matters, appeared in support of SB 53 at the hearing before the Senate Public Health and Welfare Committee. At this writing, no hearing had been scheduled for HB 94.

The Medical Association has gone on record as favoring three bills (SB's 74, 75 and 76) which resulted from recommendations of a special Governor's advisory committee on the Division of Health. The committee conducted an exhaustive study of the Division before making its recommendations. SB 74 proposes to create a seven member State Board of Health which would be appointed by the Governor and charged with selecting the Director of Health and then advising him in the planning and operation of the Division. SB 75 sets the qualifications of the Director: and SB 76 establishes his salary at $25,000 a year.

A new bill proposing to license and regulate physical therapists has been introduced (HB 152). The therapists are one of a number of paramedical or ancillary groups which have been seeking statutory recognition in recent years. The State Medical Association is working to develop a broad concept which would accomplish this aim under the State Board of Registration for the Healing Arts. A substitute HB 152 which would do that has been offered.

Other measures relating to medicine or health which have been introduced include:

SB 63—regulation and control of LSD and other hallucinogenic drugs.

SB 86—authority for the Division of Welfare to give birth control information to ADC recipients.

SB 121—remove psychiatrists employed by the Division of Mental Diseases from the state merit system.

HB 122—permit placement of mental patients in homes of their own families without loss of assistance benefits.

SB 51 & 91—"Good Samaritan" proposals relating to physicians and certain others.

HB 67—medical examiner system to replace the coroner in Jackson County (Kansas City).

HB 253—permit chiropractors to practice as physicians and surgeons under Workmen's Compensation.

HB 303—various changes in the chiropractic practice act.

HB 306—repeal of present laws relating to prohibition against contraceptive devices.

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Obstetrics	●	●	●
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Pediatrics	●	●	●
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Program

109th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

Chase Hotel, St. Louis **April 6-9, 1967**

Thursday, April 6

1:00 PM Registration of Delegates.

3:30 PM House of Delegates Meeting, opening session.

5:45 PM Reference Committee meetings.

Friday, April 7

8:00 AM Registration.

9:00 AM *Tax Dollars and Medical Care.* (Sponsored by MSMA Committee on Aging.)
Moderator: Stanley S. Peterson, M.D., Springfield.
Panel Participants:
Arthur E. Hess, Director, Bureau of Health Insurance, Department of Health, Education and Welfare, Baltimore, Md.
F. J. L. Blasingame, M.D., Executive Vice President, American Medical Association, Chicago, Ill.
State Senator William J. Cason, Clinton, Chairman, Senate Public Health and Welfare Committee.

10:30 AM Intermission to view exhibits.

11:00 AM *Diagnosis and Treatment of Cutaneous Malignancies.*
Moderator: Wilfred E. Wooldridge, M.D., Springfield.

1. *The Diagnosis of Cutaneous Malignancies,* Philip C. Anderson, M.D., Columbia.
2. *Electrodesiccation and Curettage of Basal and Squamous Skin Cancer,* Philip C. Anderson, M.D., Columbia.
3. *Surgery of Cutaneous Malignancies,* James Clawson, M.D., Springfield.
4. *A Resumé of the Mohs Technique of Chemosurgery in Treatment of Cutaneous Cancer,* G. Thomas Jansen, M.D., Little Rock, Ark.
5. *Radiation Treatment of Basal and Squamous Cell Skin Cancer,* Wilfred E. Wooldridge, M.D., Springfield.

11:00 AM *Controversy in the Management of the Depressed Patient.* (Sponsored by the Missouri Academy of Psychiatry.)
Moderator: James N. Haddock, M.D., St. Louis.

1. *Psychotherapeutic Approach to the Management of Depression,* David Davis, M.D., Columbia.
2. *The Pharmacological Approach to the Management of Depression,* Kathleen Smith, M.D., St. Louis.
3. *Electro-Convulsive Management of Depression,* George J. Lytton, M.D., Kansas City.

Speaker to be announced.

11:00 AM *Problems of Arthritis and Connective Tissue Diseases.* (Sponsored by the St. Louis Rheumatism Society.)
Moderator: Robert H. Ramsey, M.D., Ferguson.

1. *Diagnosis and Management of Gout,* Louis E. Ward, M.D., Rochester, Minn.
2. *Diagnosis and Management of Juvenile Rheumatoid Arthritis,* John J. Calabro, M.D., Jersey City, N. J.

12:30 PM Fifty-Year Club Luncheon.
Committee on Maternal Welfare Luncheon: Francis Bayard Carter, M.D., Durham, N. C., Guest Speaker; Annual Report on Maternal Mortality Statistics in Missouri and Two Case Reports.
General Luncheon: *Winning the Battle Against Socialism in Agriculture,* Charles B. Shuman, President, American Farm Bureau Federation, Chicago, Ill. (Sponsored by MSMA Committee on Medical Economics.)

2:30 PM *Family Planning.* (Sponsored by the MSMA Committee on Maternal Welfare.)
Moderator: A. C. Trueblood, M.D., St. Louis.

1. *Intra-Uterine Devices for Contraception,* Francis Bayard Carter, M.D., Durham, N. C.
2. *Oral Ovulation Suppression and Rhythm Contraception,* Joseph M. Krebs, M.D., St. Louis.
3. *Conventional Methods of Contraception,* Dan L. Berger, M.D., Shawnee Mission, Kansas.

2:30 PM *Practical Approach to Antibiotic Therapy.* (Sponsored by Missouri Society of Internal Medicine.)
Moderator: Francis J. Carey, St. Louis.
Samuel Saslaw, M.D., Columbus, Ohio.
Thomas Cate, M.D., St. Louis.
David Ginder, M.D., Columbia.

2:30 PM *Surgical Session: Gastrointestinal Lesions.* (Sponsored by Missouri State Surgical Society.)
Moderator: Robert W. Bartlett, M.D., St. Louis, President, Missouri State Surgical Society.
1. *Obstructing Lesions of the Lower Thoracic Esophagus—Differentiation and Treatment,* G. V. Brindley, Jr., M.D., Temple, Texas.
2. *Carcinoid Tumors,* Cyril Costello, M.D., St. Louis.
3. *Safety Factors in Resections of the Colon and Rectum,* Robert W. Bartlett, M.D., St. Louis.
4. *Diagnosis and Management of Acute Massive Upper G. I. Bleeding,* Howard E. Linville, M.D., Kansas City.

4:00 PM Intermission to view exhibits.

4:30 PM House of Delegates, second session.

5:45 PM Missouri State Medical Foundation Annual Meeting.

6:00 PM Reference Committees.

Saturday, April 8

8:00 AM Registration.

9:00 AM *Emphysema.* (Sponsored by Missouri Chapter, American College of Chest Physicians.)
Moderator: David N. Kerr, M.D., St. Louis.
1. *Present Status of the Etiology of Emphysema,* Herbert C. Sweet, M.D., St. Louis.
2. *Pink Puffers and Blue Bloaters,* David W. Cugell, M.D., Chicago, Ill.
3. *Surgical Procedures in Emphysema,* John W. Polk, M.D., Springfield.

9:00 AM *Surgical Approach to Ischemic Heart Disease.* (Sponsored by Missouri Heart Association.)
Moderator: A. M. Estes, M.D., Cape Girardeau.
1. *Coronary Angiography,* F. Mason Sones, M.D., Cleveland, Ohio.
2. *Surgery for Coronary Arterial Disease*—The Cleveland Clinic Experience, D. Brian Effler, M.D., Cleveland, Ohio.
3. *Experimental and Clinical Approach in Revascularization of the Entire Heart,* Arthur M. Vineberg, M.D., Montreal, Canada.

10:30 AM Intermission to view exhibits.

11:00 AM *The Process of Aging and the Use of Hormones in Females.* (Sponsored by the University of Missouri School of Medicine.)
Moderator: William Griffin, M.D., Columbia.
1. *Cardiovascular Problems,* Nathan C. Galloway, M.D., Columbia.
2. *Bone Metabolism,* Thomas S. Culley, M.D., Columbia.
3. *Psychiatric Aspects of Aging,* James M. A. Weiss, M.D., Columbia.
4. *Indications for Hormone Use in Menopause: The Practicing Gynecologist's Viewpoint,* William B. See, M.D., Columbia.

11:00 AM *From Missouri Physicians.*
Brief presentations on subjects of current interest.
1. *Long Term Administration of Benzydroflumethiazide in Hypertensive Patients,* Joseph C. Edwards, M.D., St. Louis.
2. *The Value of Cerebral Biopsy in the Diagnosis of Neurologic Disease,* Kenneth R. Smith, Jr., M.D., St. Louis.
3. *Some Practical Aspects of Thyroid Problems,* A. Denton Vail, M.D., Springfield.
4. *Considerations in Diagnosis and Therapy in One-Hundred Cases of Renal Hypertension,* James M. Stokes, M.D., St. Louis.
5. *Sleep, Its Problems and Physiology,* Jack R. Eidelman, M.D., St. Louis.
6. *Frustrations of Small Bowel Roentgenology,* M. Wendell Dietz, M.D., Springfield.

11:00 AM *Cancer—The Brighter Side.* (Sponsored by the American Cancer Society, Missouri Division.)
Moderator: Byron E. Watts, M.D., Jefferson City.

1. *Some Aspects of Early Detection,* Emerson Day, M.D., New York, N. Y.
2. *The Brighter Side*
   . . . *In Surgery,* Galen B. Cook, M.D., Columbia.
   . . . *In Radiology,* Armand E. Brodeur, M.D., St. Louis.
   . . . *In Chemotherapy,* Lester S. Garfinkel, M.D., St. Louis.

12:30 PM Missouri University Alumni Luncheon—Annual Award Recipient Otto E. Aufranc, M.D., Boston, Mass., to be honored.

12:30 PM General Luncheon. (Sponsored by MSMA Committee on Legislative Matters.)
A Legislator Looks at the Medical Profession.
Mr. James E. Godfrey, St. Louis, Speaker, Missouri House of Representatives.
Mr. R. J. King, Clayton, Minority Floor Leader, Missouri House of Representatives.

2:30 PM *Stroke—Practitioners Role in Rehabilitation.* (Sponsored by MSMA Committee on Physical Medicine and Rehabilitation.)
Moderator: Edward B. Shires, M.D., Kansas City.
1. *The Differential Diagnosis and Acute Care of the Stroke Patient,* John E. Somers, M.D., Columbia.
2. *Surgical Treatment of the Stroke Patient,* Robert D. Williams, M.D., Smithville.
3. *Rehabilitation of the Stroke Patient,* Robert Allen, M.D., Columbia.

2:30 PM *Doctor Get the Killer Off the Road* (Sponsored by the MSMA Committee on Trauma.)
Moderator: Richard E. Lord, M.D., St. Louis.
Panel Participants:
Louis Levy, M.D., Fort Worth, Texas.
Arthur W. Stickle, M.D., St. Louis.
David V. Miller, M.D., Poplar Bluff.

2:30 PM *The Management of the Unconscious Patient.* (Sponsored by the MSMA Committee on Anesthesia.)
Moderator: W. W. Tillman, M.D., Springfield.
Panel Participants:
M. T. Jenkins, M.D., Dallas, Texas.
Hector W. Benoit, Jr., M.D., Kansas City.
C. Thorpe Ray, M.D., Columbia.
George E. Roulhac, St. Louis.

4:30 PM Intermission to view exhibits.

7:30 PM Annual Banquet honoring Past Presidents of MSMA.
Speaker: U. S. Senator Edward V. Long.

Sunday, April 9

7:30 AM House of Delegates Meeting, breakfast and final session.

MISSOURI SOCIETY OF MEDICAL TECHNOLOGISTS MISSOURI ASSOCIATION OF BLOOD BANKS

20th Annual Meeting

Chase-Park Plaza Hotel, St. Louis **April 6-8, 1967**

Thursday, April 6
Morning Session

Stockholm Room

The SMA-12 Auto-Analyzer; The Experience of Nine Months—Marilyn M. Erickson, B.S., St. Louis.
Sources of Error in Auto-Analyzer Operation—Robert R. Cole, M.D., St. Louis.
Immunoelectrophoresis—Raymond G. Slavin, M.D., St. Louis.

Afternoon Session

Basic Principles of Atomic Absorption—Arthur J. Zimmer, Ph.D., St. Louis.
The Laboratory and Organ Transplantation—William T. Newton, M.D., St. Louis.

Friday, April 7
Morning Session

Stockholm Room

Routine Screening of Peripheral Blood Smears for Malignancy—Robert W. Brangle, M.D., St. Louis.

Abnormal Hemoglobins: Methods of Study and Theoretical Background—Virginia Minnich, M.S., St. Louis.

Diagnosis and Indications of Bone Marrow—Agustin Torres, M.D., St. Louis.

The Comparison of Glucose-6-Phosphate Dehydrogenase Methods of Assay—Janice Thompson, M.T., St. Louis.

Afternoon Session

Population Genetics in the Elucidation of Blood Group Systems—Emmanuel Hackel, Ph.D., East Lansing, Michigan.

Serum Genetics—The GM Factor—Eugene F. Tucker, M.D., St. Louis.

Basic Workshops—Angelo Lapi, M.D., Kansas City.

Crown Room

Business meeting of MABB immediately following session.

Saturday, April 8
Morning Session

Crown Room

Automatic Analysis Problems—Panel Discussion.

Stockholm Room

Shortcuts and Pitfalls in Clinical Microbiology—Raymond F. Gray, Ph.D., St. Louis.

Studies on the Biological Significance of the Common Antigen of Enteric Bacteria—Gerald Domingue, Ph.D., St. Louis.

The "Predictogram": Statistical Prediction of Antibiotic Sensitivity Patterns From Source, Gram Stain and Morphology Alone—George E. Gantner, Jr., M.D., St. Louis.

The Changing Role of Public Health Laboratories in Today's Medicine—Valgard Jonsson, Dr.P.H., St. Louis.

Afternoon Session

Stockholm Room

Business meeting—MSMT

Banquet—*Le Chateau,* 10405 Clayton Rd.

MISSOURI OPHTHALMOLOGICAL SOCIETY, INC.

Spring Meeting Program

April 7, 1967

Tiara Lounge, Chase-Park Plaza Hotel, St. Louis, Mo.

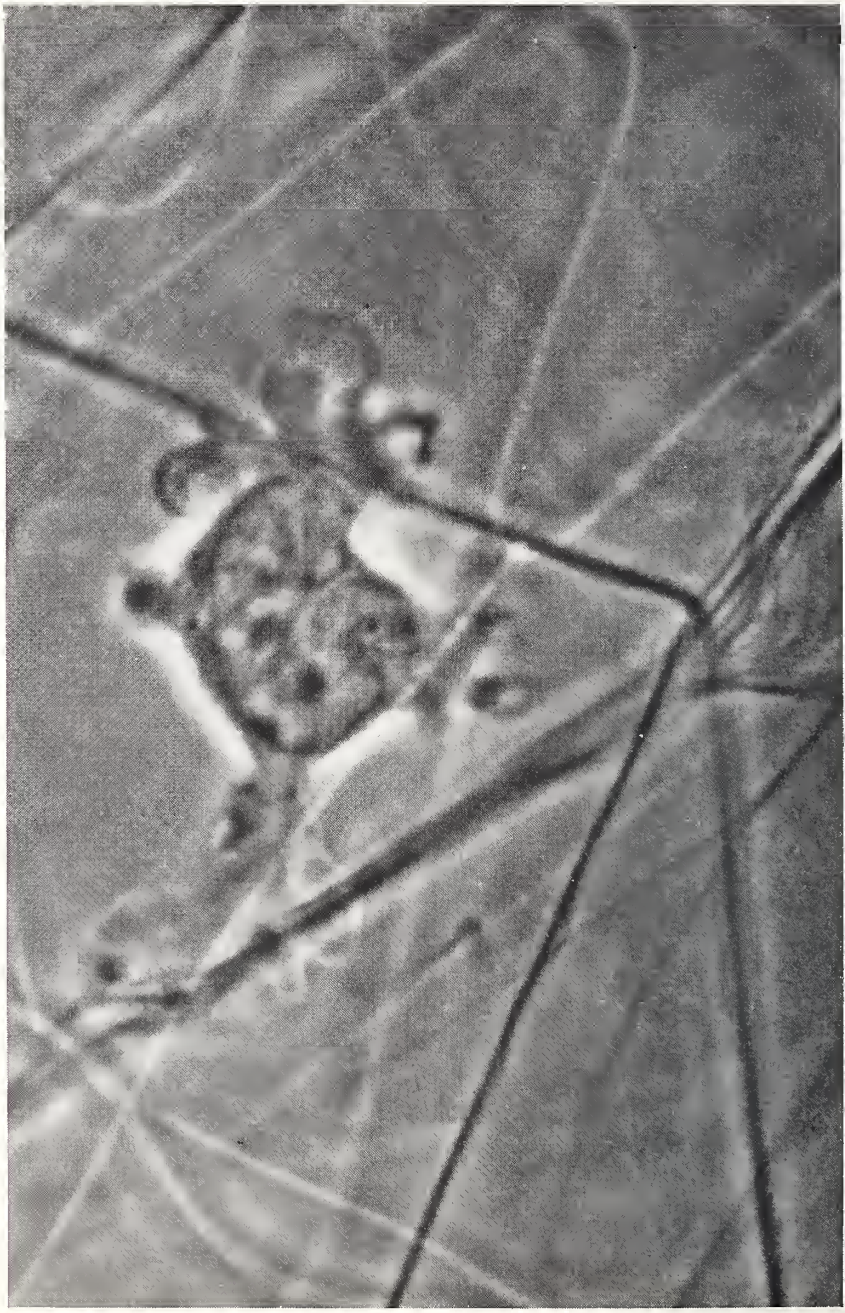
9:00-12:00 AM	Scientific Papers on Clinical Ophthalmology presented by members of the Society. (10:15 Coffee Break.)
12:00 NOON	Luncheon and Missouri Ophthalmological Society Business Meeting for election of new members to the Board of Directors and election of officers.
2:00 PM	Adjournment to the American Association of Ophthalmology (Missouri Chapter) panel discussion.
3:00 PM	Adjournment to the Missouri State Medical Association House of Delegates Meeting.

INFLAMMATION: A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.



Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

It is particularly gratifying that the promise of the advanced chemical design and high order of bioassay activity of Synalar (fluocinolone acetonide) has been confirmed by widespread therapeutic application. Indeed, the impressive clinical response rate of Synalar has been documented in no fewer than 232 papers from 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

Prescribing Information

For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes.

Contraindications: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. Precautions: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. Side Effects: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

References: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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109th Annual Session

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Audrain	Leonard Davis, Mexico	
Barton-Dade	Edmond Guldner, Lamar	Thomas W. Carroll, Lamar
"	Harold A. Bauer, Lockwood	Lee A. McNeel, Jr., Greenfield
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Boone	LeRoy J. Miller, Columbia	Thomas W. Burns, Columbia
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"	Sidney Rubin, Kansas City	
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"	Harry Statland, Kansas City	
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Marion-Ralls-Shelby	Thomas J. Fischer, Hannibal	
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Miller		
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Schuyler		
Sullivan		
Putnam		
Northwest		
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”	Arthur W. Neilson, St. Louis	George Rader, St. Louis
”	Joseph C. Edwards, St. Louis	Francis Duffy, St. Louis
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”	Hubert A. Ritter, St. Louis	Ernest Schaper, St. Louis
”	James Y. Griggs, St. Louis	Roland Ernst, St. Louis
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"	Chester P. Lynxwiler, St. Louis	Alfred F. Sudholt, Jr., St. Louis
"	Malcolm Bawell, St. Louis	W. J. Gillespie, St. Louis
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"	Robert Thomasson, St. Louis	
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"	J. Martyn Schattyn, St. Louis	Leonard J. Wiedershine, St. Louis
"	Richard A. Sutter, St. Louis	Jules H. Kopp, St. Louis
"	Melvin Schwartz, St. Louis	W. Edward Lansche, St. Louis
"	C. Read Boles, Clayton	Michael McNalley, Clayton
"	Charles Miller, Jr., Kirkwood	R. A. Mezera, Webster Groves
"	Miles Whitener, Overland	Harold D. Wolff, St. Louis
"	Allen Klippel, Clayton	Richard B. Oglesby, Clayton
"	James C. Sisk, Clayton	Wm. D. Perry, St. Louis
Saline	James A. Reid, Marshall	C. A. McBurney, Slater
Semo		
Stoddard	Ralph Rehm, Bloomfield	Richard Comeau, Dexter
New Madrid	Charles Reeder, New Madrid	Samuel M. Sarno, Morehouse
Mississippi	Wilbur L. Davis, Charleston	Robert L. Frazier, Charleston
Scott	Stephen Parks, Sikeston	Wilson J. Ferguson, Sikeston
South Central		
Howell	W. Tom Morgan, Jr., West Plains	M. L. Fowler, West Plains
Oregon	C. W. Cooper, Thayer	
Texas	Joe Spears, Cabool	
Wright	James Hasek, Mountain Grove	
Douglas	Marvin Gentry, Ava	
Ozark		
Webster	T. M. Macdonnell, Marshfield	R. J. Bareis, Marshfield
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Mar. 31-Apr. 1	**19th Annual Midwest Cancer Conference** Lassen Hotel, Wichita, Kansas (AAGP credit)
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Apr. 10-13	**Postgraduate Medical Study—Surgery** University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kansas (24½ credits)
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Notes of interest from Here .... and There

Dr. Jay Singleton, Kansas City, has been appointed Director of the Jackson County Health Department. Dr. Singleton succeeds **Dr. J. P. McCalla,** who resigned to become house doctor at the Jackson County Home for the Aged.—**Dr. A. L. Folkner,** well-known Warrensburg physician, was elected to the City Council of that community recently.

Governor Warren E. Hearnes recently appointed **Dr. Andrew McCanse,** Kansas City, as Jackson County Coroner. Dr. McCanse will serve the remaining two years of the term of **Dr. Charles B. Wheeler, Jr.,** who resigned after being elected Western Judge of the Jackson County Court. Governor Hearnes also appointed **Dr. O. B. Barger** of Harrisonville as Cass County Coroner to succeed **Dr. Robert C. Phillips,** who resigned.

Dr. R. Stacey Long is the new President of the medical staff of Research Hospital and Medical Center, Kansas City. . . . **Dr. Leo V. Mulligan** has been elected President of St. Mary's Hospital Medical Staff, St. Louis. . . . **Dr. W. Edward Lansche,** Kirkwood, is now Chief of Staff at Missouri Baptist Hospital, St. Louis. . . . **Dr. W. A. Bloom,** who was the first Chief of the medical staff at Keller Memorial Hospital in Fayette, is holding that post again this year.

Dr. William L. Smiley, St. Louis, who has been Chief Supervisor of the Obstetrics and Gynecology Department at Homer G. Phillips Hospital, has taken a new job as Director of the Maternal Child Health Project for St. Louis and the Federal Government. Dr. Smiley was presented a plaque for 30 years of service to the hospital by **Dr. H. Phillip Venable,** acting medical director.

Dr. James Humphrey, Mound City, is the newly-elected president of Northwest Missouri Medical Society. . . . **Dr. Fred O. Tietjen,** Jefferson City, will head the Cole County Medical Society this year. . . . **Dr. C. Read Boles,** Olivette, has been installed as president of the St. Louis County Medical Society.

Plans are being made to establish a broadly-based, permanent organization dedicated to the development, improvement and marketing of flame-retardant clothing and other fabrics to protect consumers from burns. The proposal of such an association was adopted at the Conference on Burns and Flame Retardant Fabrics at the New York Academy of Medicine. The organization would encompass development of improved flame-retardant fabrics, education and protection of the consumer public and exchange of knowledge among all groups concerned.

The American College of Radiology bestowed its Gold Medal on two of its distinguished fellows at the College Fellowship Convocation in Los Angeles in February. They are **Dr. Edwin C. Ernst, Sr.,** St. Louis, and **Dr. Traian Leucutia,** Detroit. Dr. Ernst, now in his eighth decade, is active in what has become a family partnership with his three sons, all radiologists. Also, he is a vigorous part of radiology organizations and has been credited with being the motivating force behind the preservation of radiology's beginnings by the ACR Foundation through the National Council of Radiological Heritage.

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RAYMOND G. SLAVIN, M.D., *St. Louis*

The Use of Corticosteroids and ACTH In Allergic Diseases

In 1949, Hench[1] reported the first beneficial effect of corticosteroids on patients with rheumatoid arthritis. The remarkable results focused attention on these agents, and their subsequent use in the treatment of the allergic diseases ushered in an entirely new and dramatic era in the management of these disorders. While the effect of steroids on the manifestations of the allergic disorders has been awesome and profound, the "two-edged sword" concept has had no better application in medicine. The first beneficial reports heralded an unprecedented therapeutic stampede with practically universal acceptance and, too often, injudicious use. Soon, the sometimes tragic consequences of the now well-known side effects dampened the initial enthusiasm. In many quarters, the pendulum swung far over to a nihilistic, "I never use the stuff" attitude. It will be the purpose of this article to attempt to place the corticosteroids and corticotropin (ACTH) in a reasonable perspective, insofar as their use in the common hypersensitivity diseases is concerned. The mode of action, complications and newer methods of application will be reviewed.

Mode of Action

It has long been recognized that the adrenal cortex influences reactions of hypersensitivity. Over 40 years ago, it was demonstrated that animals with impaired adrenal function have exaggerated anaphylactic reactions,[2] while hormones of the adrenal cortex have been shown to produce some protection to animals from the effects of anaphylactic shock. In recent years, investigations into the particular actions of steroids in altering hypersensitivity reactions have centered on four main areas:

1. Relative adrenal cortical insufficiency.
2. Antibody formation.
3. Inflammatory response.
4. Histamine metabolism.

Studies relative to an abnormal pituitary adrenal function in allergic conditions have been extremely inconclusive. Urinary excretion of 17-ketogenic steroids in allergic patients has been found to be both decreased[3] and normal.[4] Thorn tests (changes in eosinophile counts) have been reported as positive[5] and negative.[6]

Plasma 17-hydroxycorticosteroid response to ACTH has been found to be normal in some asthmatic studies[7] and impaired in others.[8] Siegel[9] sums up the controversial situation by stating that most authorities feel that steroids exert their anti-allergic effect by their inherent physiologic and pharmacologic properties rather than by replacing a relative adrenal cortical insufficiency or altering the pituitary-adrenal axis.

Antibody formation in experimental animals has been suppressed with large doses of steroids,[10] and this phenomenon has been postulated as an explanation for the anti-allergic effects of steroids. One important point to keep in mind, however, is that only the primary response is suppressed; the secondary or anamnestic response is little altered.[11] In man, enormous doses of steroids, far higher than that used therapeutically, are needed to suppress antibody formation.[12] It is well known that steroids fail to lower the skin sensitizing antibody level and do not interfere with the wheal and erythema reaction.[13] Thus, it seems unlikely that suppression of antibody formation by steroids plays a major role in its anti-allergic effect.

The suppressive effect of corticosteroids on inflammation undoubtedly contributes to altering hypersensitivity reactions. Among the inflammatory aspects affected are increased vascular tone and decreased loss of fluid and cells from blood vessels,[14] decrease in leukocyte adherence to endothelium, decrease in volume of inflammatory exudate and slowing of the rate at which phagocytic cells dispose of ingested foreign particles.[15] A recent postulate[16] is that adrenocorticosteroids exert their anti-inflammatory effect by inhibiting the release of plasma kinins, which are naturally occurring vasoactive polypeptides thought to be mediators of acute inflammatory responses.

The final main area of investigative approach to the effect of steroids on hypersensitivity is histamine metabolism. Steroids seem to inhibit the re-accumulation of histamine once it has been discharged.[17] Schayer[18] feels that steroids inhibit the ability of histamine to dilate capillaries. Telford and West,[19] in animal studies, have shown reduction of tissue 5-hydroxytryptamine, lowered histamine levels, disrupted mast cells and reduced liver histidine decarboxylase by glucocorticoids. The relative effectiveness of adrenal cortical steroids in altering histamine and 5-hydroxytryptamine levels in rat tissues paralleled the clinical effectiveness of the various steroid preparations. The authors believe, therefore, that the therapeutic effects of glucocorticoids in allergy may be partly the result of an action on histamine metabolism or on the binding mechanism for histamine in tissues.

Complications

Any physician contemplating long-term chronic steroid treatment for a patient must compare the undeniable risks of prolonged steroid therapy with its advantages. The list of complications from prolonged steroid therapy is extensive and involves almost every organ system. It includes Cushingoid syndrome, peptic ulceration,[20] osteoporosis and vertebral collapse,[21,22] psychoses,[23] hypertension,[24] spread of localized infections including tuberculosis[25] and aggravation of diabetes or initiation of hyperglycemia.[26] We might now discuss a few lesser known and more recently described complications due to corticosteroid administration in allergic subjects. These include:

1. Thromboembolic phenomenon.
2. Glaucoma and cataracts.
3. Reduced growth.
4. Infectious complications.

An increased incidence of thromboembolic phenomena has been reported in severe cases of asthma treated with steroids.[27] In allergic patients, particularly those with asthma, coagulation times and protamine titration values for heparin have been found to be lower than average.[28] At the same time, ACTH and steroids are known to depress mast cell function and heparin production. The combination might account for an increase in thromboembolism.

Development of chronic glaucoma has been reported in five patients following intensive local corticosteroid therapy.[29] This was accompanied by high tension in all cases. The authors make the point that frequent examinations of the eye pressure should be made in patients receiving prolonged local steroid therapy. In another study, a large number of patients on long term systemic corticosteroid therapy had significant increases in intraocular pressure and mean ocular rigidity.[30] There have been reports of systemic corticosteroid therapy leading to formation of posterior subcapsular cataracts,[31] but the subject remains controversial. Becker[32] feels that, at most medical centers, cataracts after systemic corticosteroids are a common source of referrals. In a large series of asthmatic patients studied carefully, there was no increase in cataracts and these authors conclude that treatment with oral steroids is not likely to cause cataracts in asthmatic patients.[33] While there seems to be some association, it has not been conclusively established that long term systemic corticosteroid therapy causes posterior subcapsular cataracts.

The group at the Children's Asthma Research Institute and Hospital in Denver has called attention to the reduced linear growth rate in children on steroids.[34] There is also a statistically significant difference in the height between chronic asthmatics and the normal or nonasthmatic children. The difference in growth rate is related to the severity of the asthmatic state. Thus, both an intractable asthmatic state and its therapy with steroids depresses growth, the asthma effect being more pronounced than the steroid. The reason for this effect of steroids on growth is not known. Szentivanyi and his group measured the incorporation of intraperitoneally administered S^{35} labeled amino acids into serum and tissue proteins of adult rats after injection of cortisone.[35] Their results would indicate that depression of growth may be secondary to amino acid deprivation produced by a uniform primary increase in amino acid transport or metabolism by all cells. Other studies show that the presence or absence of certain micronutrients, such as manganese, can modify the effect of cortisone upon growth.[36] Many factors will have to be studied before definite conclusions can be drawn as to the mode of action of these hormones on the growth of children.

Encouraging reports have been received on the use of Stanazolal, an anabolic agent, in accelerating linear growth without comparable skeletal maturation in growth-retarded, adrenocorticoid-treated asthmatic children.[37]

It is well known that steroids lower resistance to infection. However, it must be kept in mind that infections not infrequently complicate types of diseases treated with adrenal hormones. It should, therefore, be remembered that often the disease itself enhances susceptibility to infection rather than the hormones used to arrest its progress. Attempts to prevent infection with antimicrobials in patients on steroids have not been successful because of the variety of infectious agents involved and the diminution of host resistance so often present. Studies[38] have recommended use of anti-tuberculous medication in children who are tuberculin positive and antibacterial therapy for pre-existing infection before starting steroid hormones. Others suggest prophylaxis with isoniazid in tuberculin positive individuals or in those with pulmonary lesions, even if they appear inactive. Falliers *et al*[39] report that the course of varicella in 21 children receiving steroids in dosages sufficient for acceptable control of asthma was generally uneventful. It is the practice at the Children's Asthma Research Institute and Hospital to continue steroid therapy at maintenance levels in asthmatics developing varicella.

An infectious complication has been reported with topical corticosteroids and occlusive dressings.[40] After initial excellent results, two patients developed antibiotic resistant secondary staphylococcal infection. The authors feel that the hazard of treating hospitalized patients with occlusive dressings is greater because of the greater prevalence of antibiotic-resistant staphylococcal organisms in the hospital.

This is the third article of a series prepared by the Department of Internal Medicine, St. Louis University School of Medicine. Here the author shows how the treatment of diseases of hypersensitivity has undergone a dramatic change in the last decade with the advent of the corticosteroids and corticotropin. Controversy has surrounded the use of these agents, since undeniable risks and unwanted side effects have been associated with the beneficial results. The author reviews the mode of action of corticosteroids and corticotropin, their complications and some newer methods of application, with the view in mind of formulating a reasonable therapeutic approach to using these agents in the hypersensitivity diseases. Doctor Slavin is Assistant Professor of Internal Medicine and Director of the Section of Allergy and Immunology.

Some controversy exists with regard to the effect of the "steroid era" on mortality from asthma. Alexander[41] and Sheldon[42] feel that the introduction of corticosteroid therapy may be responsible for a decline in fatalities from bronchial asthma. Samter,[43] on the other hand, is of the opinion that corticosteroids have decreased the morbidity, but increased the mortality, of patients suffering from asthma. Arbesman[44] also believes that more deaths are occurring now in asthmatics and wonders if changing the pathologic and physiologic picture with steroids might be responsible.

NEWER METHODS OF USE, APPLICATION

A constant problem with which the physician is faced in connection with long term corticosteroid therapy is pituitary-adrenal suppression and atrophy. Attempts have been made to reduce the chances of such suppression and also reduce side effects. These include:

1. Changes in dosage schedule of corticosteroids.
2. The use of ACTH in different amounts and in different forms.
3. The use of aerosolized steroids.
4. Newer topical compounds.

General opinion has related adrenal suppression to duration of treatment and total dosage of steroid.[45] From most reports, a critical phase between one to three years was suggested, but Danowski[46] found some patients responsive after five years of treatment. A dosage schedule proposed several years ago by Harter *et al*[47] offers some promise of equal efficacy and substantially reduced side effects, especially adrenal suppression. This new regimen is a variation on the theme of interrupted hormone therapy—a total 48-hour dosage being administered in a single dose every other day, rather than in divided doses in this same period. In many instances, the interval has to be reduced. Adrenal suppression with long term therapy on this schedule seems markedly lessened. A further advantage is that patients on every-other-day therapy for three to four weeks, after being on a three-times-a-day regimen, may safely stop steroids without further tapering. From a personal point of view, I have found this program extremely difficult to institute in patients who have been on daily steroids for a prolonged period of time. More recently, Harter[48] has suggested supplemental monthly injections of ACTH and avoidance of daily supplemental steroids in any form with every-other-day steroid therapy.

The clinical and laboratory evidence suggests that the off-steroid day on alternate-day programs is important. Probably for this reason, the so-called "long acting" steroids, such as betamethasone and dexamethasone, are not suitable for every-other-day therapy in that they cause significant adrenal suppression.[49]

Opinion remains divided as to whether ACTH or the steroids is superior in the management of the diseases of hypersensitivity. The advantages of corticotropin or ACTH over steroids are several:

1. It stimulates, rather than inhibits, the adrenal cortex and produces a more actively functioning, rather than an atrophic, gland.
2. Withdrawal symptoms are less frequently encountered.
3. It appears to be less catabolic in therapeutic doses than corticosteroids.

On the other hand, the disadvantages of ACTH are many and, on the whole, would point to an over all corticosteroid preference. These disadvantages include the following:

1. ACTH must be administered parenterally.
2. An increasing number of severe allergic reactions to ACTH are being reported.[50]
3. The duration of activity is probably not more than 24 hours.
4. The amount of corticosteroids produced by ACTH stimulation is limited by the secretory capacity of the adrenal cortex. In addition, objective assessment of ventilation tests tend to favor corticosteroids.[51]

A synthetic corticotropin, preparation Ciba 30,920-BA, has been recently reported to be as effective as the natural ACTH and can be recommended for use in patients displaying allergic reactions to the naturally occurring product.[52] The advantages of a synthetic product would be:

1. Purity and thus freedom from sensitivity reactions.
2. Uniformity.
3. Exactitude of dosage.
4. Precise characterization.
5. Assay by chemical, rather than biological, methods.

A British group[53] has been treating bronchial asthma with intermittent corticotropin, 40 units of Acthar gel, two or three times a week. This mode of therapy, in their hands, seemed to offer several advantages in management—fewer side effects, absence of a clinical withdrawal syndrome and a clinical response at least equal to conventional oral steroids. The major advantage was more ability eventually to discontinue treatment in some cases rather than greater efficacy in control of the disease.

In a further effort to reduce side effects, studies have been performed on methods of administration other than systemic. It has been felt for many years that topically administered steroids in the form of aerosols would result in a high local concentration of hormone on the bronchial mucosa and might so effect the relief of asthma, with less of the adverse reactions encountered with systemic therapy. While the major therapeutic effect results from the topical deposition on the mucosa of the tracheo-bronchial tree, there are data to suggest a systemic effect. Forsham, quoted by Bickerman,[54] observed a 50% average reduction in 17-OH corticosteroid excretion in the urine in four subjects receiving inhalation of dexamethasone aerosol. However, minimal doses of cortisone by aerosol have been shown to be more effective than a comparable dose ingested orally.[55, 56] Arbesman[56] reports particular effectiveness of dexamethasone aerosol in children with the extrinsic type of asthma. Bickerman[54] makes the point that, while long term administration of dexamethasone aerosol would not seriously impair the functional reserve of the adrenal cortex, any patient receiving prolonged therapy should be given supplemental steroids when subjected to added stress, such as surgery, trauma and serious infection. An aerosolized steroid has also given good results in allergic rhinitis,[57] but again adrenal suppression may result.[58] In summary, the topical application of steroids to the respiratory tract may materially reduce the dose of steroids required to relieve symptoms. At the same time, enough evidence is present on the systemic absorption of these materials to dictate the same indications and precautions observed for systemic hormone therapy.

The newer corticosteroid drugs such as fluocinolone acetonide, flurandrenolone acetonide and triamcinolone acetonide seem to offer greater value in topical skin therapy because of increased solubility and absorption.[59] The effectiveness of these preparations is increased when applied under an occlusive plastic film.[60] The beneficial effect observed is probably produced by maceration under the plastic film with retention of the steroid in the treated area.

Guidelines for Use of ACTH and Corticosteroids in Hypersensitivity Diseases

The preceding review of mode of action, complications and methods of administration of ACTH and corticosteroids would be fairly worthless if it did not offer the information which would help one make a judgment as to the proper use of these agents. This background material has been offered with the view in mind, as stated initially, of placing the corticosteroids and corticotropin in a reasonable therapeutic perspective. When contemplating the use of these agents in diseases of hypersensitivity, the following points should be considered:

1. Steroid therapy is *not* the first line of defense against allergic diseases and should never be used as a substitute for orthodox allergic management. Steroids should not be used until it has been shown that a conventional program of management in knowledgable hands has failed to bring relief. Symptomatic relief in prevention of allergic manifestations must be sought through use of drugs such as epinephrine, ephedrine or their analogues; and such measures as avoidance of allergens, adequate inventory of the patient's diet and environment with subsequent institution of appropriate controls and hyposensitization treatment.

2. The use of steroids in the treatment of acute, life-threatening situations, such as anaphylaxis, is to be deplored because of the slow onset of action.

3. More enthusiasm should be directed toward the use of steroids in treating self-limited allergic entities, such as contact dermatitis, serum sickness and seasonal pollen asthma. Steroids in these situations need be given for only relatively short periods of time and will often profoundly reduce the morbidity and duration of the allergic reaction.

4. It is widely felt that initiation of steroid therapy condemns a patient to long term use because of difficulties encountered when the drug is stopped. Steroids can effectively be used as temporary symptomatic therapy during exacerbations of disease or to tide over patients until other anti-allergic methods become effective. The initiation of steroid therapy need not be considered an irrevocable step.

5. In patients who will need prolonged steroid therapy, one should strongly consider such measures as alternate day therapy or topical administration. Even with these newer measures, the suppressive effect of steroids and the side effects must constantly be kept in mind. In particular, one must be aware of the need for supplementary hormone in times of stress.

6. There is general agreement that the degree of suppression and the incidence of side effects due to steroids are directly related to the amount and duration of therapy. A cardinal rule is to use the smallest amount of steroid over the shortest period of time. To keep the patient comfortable enough to pursue daily activities should be the aim of therapy, not necessarily to make him absolutely symptom free.

7. A constant effort must be made to decrease the steroid dose or even discontinue it. Thorn[61] points out that a psychological letdown almost invariably accompanies any significant decrease in steroid dosage, and this reaction undoubtedly increases the patient's awareness of his symptoms.

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All members of MSMA are invited to attend the 43rd Hodgen Lecture to be presented by the St. Louis Surgical Society at 6 PM on March 7 at the St. Louis Medical Society Auditorium, 3839 Lindell Boulevard. Guest speaker will be George Crile, Jr., M.D., head of the Department of General Surgery, Cleveland Clinic, who will discuss *"Rationale and Results of Simplified Treatment of Breast Cancer."*

A. SHERWOOD BAKER, M.D., HENRY M. PARRISH, M.D. *and*
F. MARIAN BISHOP, Ph.D., *Columbia*

What Do Rural General Practitioners in Missouri Really Do in Their Offices?

Time is important to physicians and patients. Few physicians limit their thoughts or actions to time when there is a medical emergency. However, time may impose a block to providing efficient medical care. How do physicians spend their time in the office, in the hospital, in patients' homes, in the community? Moreover, what functional activities occupy most of the physician's time? How much is spent for diagnosis, treatment, administration and counseling? The purpose of this study is to determine the amount of time general practitioners spend in various functional activities during office hours. Information on this subject has been scanty and incomplete. Detailed facts are urgently needed to train future practitioners about what to expect in office practice. Moreover, these facts may provide guidelines for improving the efficiency of current office practice. Today, physicians are performing many activities that could be completed by ancillary personnel. Improved methods of counseling and providing health information may save physicians as much time as new diagnostic and therapeutic aids. Time saved in these activities would free physicians for additional patient care.

Although there have been several studies of general practice, none has been a time study. Peterson *et al*[1] made a detailed study of the characteristics of general practitioners, their offices and their patients in North Carolina. However, they did not study what physicians actually do in their offices in terms of time and functional activities. The American Academy of Pediatrics[2] reported that about 54% of visits to pediatricians were for health supervision and only 43% were for caring for sick children. Dowling and Shakow[3] surveyed how 41 internists spent their time during one week. They found that 55% of time was used for diagnosis and treatment, 26% for preventive measures and 19% for health education. In this survey, physicians recorded their own activities. Some difficulty was experienced in deciding how to classify certain activities. Cohart and Willard[4] point out the lack of time studies and proven methods to measure time spent in health work. Methods used for time studies in industry are not always applicable to medicine.

Methods

The office practices of 25 general practitioners who serve as preceptors in the Department of Community Health and Medical Practice, University of Missouri School of Medicine, were used for this study. These physicians practice in cities of 10,000 population or less in Missouri. Most of them are members of the American Academy of General Practice.

Third and fourth year medical students were used as observers for this study. The study was conducted while students were serving four-week preceptorships in general practitioners' offices. Medical student observers were used because it is difficult and time-consuming for a physician to record his own activities. Each student was instructed in the methods of data collection before his preceptorship commenced. Ample opportunity was provided to examine data forms and ask questions about the study. The general practitioner served as a second observer by checking the student's observations of each patient's visit. The general practitioner was provided a set of instructions and data forms and the medical student explained the study methods to him. There was close agreement by the two observers on all of the recorded findings. Where differences of opinion occurred, they were settled by mutual agreement between the two observers. A patient's "primary diagnosis" was used for this study. The primary diagnosis is the disease or condition which prompted the patient to visit his physician. For example, the primary diagnosis of a patient with diabetes mellitus who fractures her right radius is fracture of the right radius.

Diseases of office patients were classified by using the Standard Nomenclature of Diseases and Operations.[5] This classification system is based on two factors: the part of the body involved (topographic) and the cause of the disease (etiologic). For the purpose of this study, only the topographic classification was used. The major body systems classified were: body as a whole; integumentary (including the skin, mucous membranes of the orifices and the breast); musculoskeletal; respiratory; cardiovascular; hemic and lymphatic; digestive; urogenital (including female genital organs during pregnancy, parturition and puerperium); endocrine; nervous; organs of special sense (eye and ear); and disease of undetermined site and cause. Two additional categories were added: (1) disease not stated and (2) non-diagnostic terms. The latter category included patients having routine physical examinations, well baby examinations and immunizations. Patients seen for prenatal examinations were classified as urogenital system.

This study in 1965 was limited to the physician's activities during his office practice for one day. Therefore, hospital rounds, house calls and meal breaks were not included.

The medical student observer spent about seven to 14 days with his preceptor before selecting a day for the study. Usually several patients were pretested before the study day so that observers could become familiar with the research methods. A watch with a second hand was used to record time. A weekday in the office was used. Weekends and days on which the doctor took an afternoon off were excluded. After data were collected, one of us discussed the findings with the medical students. Any difficulty in assigning an item to a functional category was corrected at that time. Few problems of this nature were encountered.

TABLE 1

Patient Evaluation Form

Name . . . . Age . . Sex . . . Race . . .
Primary diagnosis . . . .
Old pt. . . . New pt. . Physician . . . . . . Date . . . .

Estimated no. minutes spent in following activity categories:

	Student	*Physician*
Personal	. . . .	. . . .
Administrative	. . . .	. . . .
Preventive medicine	. . . .	. . . .
Health information and counseling	. . . .	. . . .
Diagnosis	. . . .	. . . .
Treatment	. . . .	. . . .
Other	. . . .	. . . .
Total	Min.	Min.

If other, specify: . . . .

Physical exam. (Check, if used): Laboratory tests (List):
B.P. . . . . Temp. . . . EENT . . . .
Neck . . . . Heart . . . Chest . . . .
Abdom. . . Extrem. . . Skin . . . .
Neurol. . . Rectal . . Vaginal . . . .

Two data collection forms were used: (1) a daily log and (2) a patient evaluation form. The daily log was marked off in five minute increments to record all of the physician's activities during the working hours of the study day. The time when office hours began and ended and interruptions for hospital visits, house calls and meals were recorded. Also, items such as coffee breaks, rest room breaks, personal business, telephone calls and patient visits were recorded on the daily log. The daily log depicted the physician's general activities throughout the day. Detailed information about each office patient was recorded on the patient evaluation form. This form included the patient's name, age, sex, race, primary diagnosis and whether he was a new or old patient. In addition, there was space to record the amount of time the physician spent in various functional activities while attending the patient. Table 1 shows the patient evaluation form.

Since physicians do many things in their offices other than diagnosis and treatment, their functions arbitrarily were classified as six major activities: personal, administrative, preventive medicine, health information and counseling, diagnosis and treatment. A seventh category, "other activities," was provided to include anything not listed in the six major functional groups. Individual items listed for each activity were obtained by interviewing six general practitioners about what they actually did in their offices. A detailed list of these activities follows:

Personal Activities—Personal business or telephone calls; snacks and coffee breaks; rest room breaks; visiting with friends, personnel, or visitors; reading personal mail or newspapers and personal conversations with patients about subjects other than the patient's medical condition.

Administrative Activities—Preparation of bank deposits; dictating or writing letters; making notations on records and charts; opening and reading office mail; completing and signing insurance forms; making out laboratory reports;

telephoning or writing prescriptions; preparing medication to be dispensed to patients; admitting patients to hospitals; calling consultants about patients; personnel management; talking to salesmen of drug companies; ordering supplies; completing birth and death certificates; completing health certificates; completing tax forms and reading medical journals.

Preventive Medicine Activities—Examinations for employment, school, insurance or routine surveys; immunizations; laboratory tests associated with routine physical examinations; cervical smears; ECG; X-rays, blood sugar or blood screening tests; visual testing; tuberculin tests; proctoscopy; premarital and prenatal exams; fitting contraceptives; postpartum care and follow-up examinations after surgery or injury.

Health Information and Counseling Activities—Providing health information to the patient, family or others; explaining diet instructions or nutritional counseling; explanations for urine and other tests; distributing health instruction pamphlets; explaining disease processes; arranging health displays in the office; counseling patients with marital problems; arranging community health services for the patient; psychotherapy for patients with psychosomatic diseases; visiting with patients who need periodic reassurance; counseling with problem children and their parents; counseling with alcoholics and addicts; counseling with unwed mothers; answering telephone calls for health information; genetic counseling; family planning counseling and instructing women on self-examination of breasts.

Diagnostic Activities—History taking; physical examination; ordering laboratory tests; withdrawing blood samples for diagnosis; ordering and reading diagnostic X-rays; diagnostic endoscopy; diagnostic EKG; and performing diagnostic laboratory tests.

Treatment Activities—Setting fractures; suturing lacerations; removing bandages; removing sutures; changing dressings; cauterization; diathermy; giving injections; giving medication; bandaging and minor surgery.

Other Activities—Any activity not listed above but specified.

While the above list of activities may not be complete, it seemed desirable that each observer know most of the items that should be included in each category.

Results of the Study

General practitioners who participated in this study were compared with other members of the Missouri Academy of General Practice. The average age of participating physicians was 44.5 years and the average number of years since medical school graduation was 17.4. For nonparticipating members of the Missouri Academy of General Practice who lived in communities of similar size, the average age was 52.6 years and the average number of years since medical school graduation was 22.3. Thus, the participants were about eight years younger and graduated from medical school about five years after their colleagues who were not studied.

Office practice data were collected during all seasons of the year, 1965, with a fairly even monthly distribution. Of the 25 days selected for study, seven were on Monday, four were on Tuesday, nine were on Wednesday, four were on Thursday and one was on Friday. Physicians in Missouri frequently include Friday in taking a long weekend off duty. As previously mentioned, weekend days were excluded.

The geographical distribution of office practices studied covered all areas of Missouri. These practices were located in 20 different counties. The Missouri River divides the state into halves. Ten of the practices were north and 15 were south of the Missouri River.

During one day in their offices, 25 general practitioners attended 910 patients, an average of 36.4 patients per physician. Of these patients, 849 were whites and 61 were non-whites. Ninety-one were new patients and 819 patients had been seen previously. Table 2 lists the age and sex distribution of office patients. There were 502 females and 408 males. The number and percent of patients by 10 year age groups were: 0-9 years, 119 patients (13.1%); 10-19 years, 102 (11.2%); 20-29 years, 89 (9.8%); 30-39 years, 85 (9.3%); 40-49 years, 104 (11.4%); 50-59 years, 108 (11.9%); 60-69 years, 130 (14.3%); 70-79 years, 94 (10.3%); and 80 or more years, 64 (7.0%). For 15 patients (1.7%), the age was not

A report on the first study of what physicians actually do in their offices in terms of time and functional activities. The study was made of 25 rural general practitioners' office hours. Findings not only provide important implications for future medical education and practice, but may offer new guidelines for improving the efficiency of current office practice. The authors are from the Department of Community Health and Medical Practice, University of Missouri School of Medicine, where Doctor Parrish is Chairman and Professor and Doctors Baker and Bishop are associate professors.

TABLE 2
Age and Sex of Office Patients Seen by 25 General Practitioners During One Day

Age Group	*Males*	*Females*	*Total* No.	%
0- 9	55	64	119	13.1
10-19	52	50	102	11.2
20-29	22	67	89	9.8
30-39	31	54	85	9.3
40-49	36	68	104	11.4
50-59	54	54	108	11.9
60-69	66	64	130	14.3
70-79	45	49	94	10.3
80 or more	39	25	64	7.0
Not stated	8	7	15	1.7
Total	408	502	910	100.0

stated. The high percentage of patients 60 or more years of age is in keeping with the large percentage of Missouri's general population 65 or more years of age.

Twenty-five general practitioners clocked a total of 195 hours and 22½ minutes during the day their office practices were studied. This provides an average of about seven hours and 49 minutes per physician. If one subtracts the time spent in office activities while not attending patients (2,253 minutes) from the total time spent during office hours (11,722.5 minutes), a figure of 9,469.5 minutes of direct patient contact is obtained.

Of 9,469.5 minutes spent in direct patient contact, 244 minutes (2.6%) were used for personal activities, 614 minutes (6.5%) for administration, 1,282 minutes (13.5%) for preventive medicine, 1,824.5 minutes (19.3%) for health information and counseling, 3,161.5 minutes (33.4%) for diagnosis and 2,343.5 minutes (24.7%) for treatment. No "other activities" were listed which could not be assigned to one of the above six categories. An average of 10.4 minutes was spent with each patient.

Table 3 shows the total amount and percent of time 25 physicians spent during office hours. This includes time spent in direct patient care plus time spent while not caring for patients. The bulk of the latter time was spent for personal activities, administration and telephone calls for providing health information and counseling. Of 11,722.5 minutes total office time, 8.6% was spent for personal activities, 16.3% for administration, 10.9% for preventive medicine, 17.2% for health information and counseling, 27% for diagnosis and 20% for treatment. This analysis of the total office time produced a significant increase in the percent of time spent for personal activities and administration and a slight decrease in the percent of time used for preventive medicine, health information and counseling, diagnosis and treatment.

Discussion

One of the advantages of this study was having medical student observers who recorded the findings as they were happening. Several previous studies relied on the physician to record his own activities. This disrupts office routine and increases bias. The methods of this study were clearly defined and pretested before the study was conducted. Terms were defined in minute detail to insure accuracy, completeness and reproducibility. Students and general practitioners had little difficulty in assigning an activity to the appropriate functional category. Thus, the methods appeared to be simple, effective and workable.

The selection of general practitioners who participated in this study depended on their serving as preceptors in the training program of the University of Missouri School of Medicine. This meant that they practiced in rural towns in Missouri with 10,000 population or less. These physicians were about eight years younger and graduated from medical school about five years after their non-participant, general practitioner colleagues. Thus, the sample was not a random one. Nonetheless, we believe the results of this study describe, in general, what goes on in rural general practitioners' offices in Missouri. These rural practitioners often were the town's only physician. Thus, they provided the total health care for their town or population group. One could reason that selection factors for patients coming to their offices would be less biased than

TABLE 3
Time Spent by 25 General Practitioners During Office Hours for One Day

Functional Activity	*Total No. Minutes*	*% of Total Minutes*	*Ave. Min./ M.D./Day*
Personal	1,010.0	8.6	40.4
Administrative	1,913.0	16.3	76.5
Preventive medicine	1,282.0	10.9	51.3
Health information and counseling	2,012.5	17.2	80.5
Diagnosis	3,161.5	27.0	126.5
Treatment	2,343.5	20.0	93.7
Total	11,722.5	100.0	468.9

patients coming to metropolitan physician's offices.

Of total time spent in office practice, only 27% was used for diagnosis and 20% for treatment. This finding may surprise some people. If only 47% of time is spent for diagnosis and treatment, how do physicians spend the rest of their time in the office? The next largest increments of time were spent on health information and counseling (17.2%), administration (16.3%), preventive medicine (10.9%) and personal activities (8.6%).

These findings provide important implications for medical education and medical practice. If 17.2% of physicians' time is spent for health information and counseling, then more time in the medical school curriculum should be devoted to teaching these subjects. Methods of improving communications between physicians and patients have been neglected in undergraduate and continuing medical education. So has the whole field of health education. About 16.3% of physicians' time is spent for administration. Improved methods of business and personnel management in the office could free the physician for more direct patient care. Some medical educators are reluctant to teach, or even mention, the business side of medical practice. Many young physicians finishing an internship or residency have foggy notions about where or how to organize an office practice. They often are shocked by their lack of training in this area. Preventive medicine accounts for 10.9% of general practitioners' office time. Some medical schools do not even have a department of preventive medicine. Greater emphasis should be placed on health promotion, periodic health examinations and screening tests for tuberculosis, venereal diseases, visual defects, glaucoma, hearing defects, cancer, diabetes, hypertension, obesity, and heart disease. The time is ripe for medical students, interns, residents and medical educators to pay attention to what really goes on in physicians' office practices.

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Learning to live in our environment without spoiling it by pollution will be the subject of a three-day scientific meeting in New York City April 24-26 at the Americana Hotel. Sponsored by the American Medical Association, the National Congress on Environmental Health Management will be an assembly of major scientific and health authorities who are concerned with our growing population's management of air, water and other irreplaceable environmental resources. Organizations cooperating in the meeting are the Medical Society of the State of New York, the New York State Action for Clean Air Committee and the New York State Health Department.

The Congress will emphasize the advanced technology available for cleaning up air and water and preserving them for continued use. A main theme will be the need for coordinating professional, administrative and technological resources in this effort.

The Congress is sponsored by the AMA's Council on Environmental and Public Health, the Department of Environmental Health and the Division of Socio-Economic Activities.

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Urinary Calculi in Pregnancy

Case Report

Urinary calculi during pregnancy are relatively uncommon. As late as the mid-1950's, less than 100 such cases had been noted in American literature.[1] Because the reported incidence varies between 0.01% and 0.1%, individual clinicians may have limited opportunity for extensive experience in the management of this complication. The pregnant patient with a urinary calculus may present with signs and symptoms of an apparent "surgical abdomen" suggestive of appendicitis or even cholecystitis. Conversely, individuals with recurrent episodes of urinary tract infection during pregnancy may, on closer examination, have calculi demonstrated as the underlying cause for their urinary tract dysfunction. Urinary tract stones may be overlooked during pregnancy, the resulting symptoms being attributed to alterations in ureteral motility and tone combined with the compression of the ureters at the pelvic brim by the gravid uterus.

Because of variation in both symptoms and clinical findings, the cases of urinary calculi occurring during pregnancy treated at the University of Missouri Medical Center were reviewed. A total of seven cases were found in five years.

Clinical Material

In the interval from 1960 to 1965, seven cases of urinary calculi complicating pregnancy were encountered; an incidence of 0.14%. This occurrence is somewhat greater than has been reported elsewhere, reflecting perhaps the referral function of this medical center for rural Missouri.

Table 1 depicts the general characteristics of these patients. The average age was 24.5 years and all were multigravidas. Three of the patients were Negro and four Caucasian, a distribution not dissimilar from our service population. More than half of these patients had symptoms referable to their urinary tract prior to pregnancy. Symptoms prior to pregnancy had been diagnosed and treated as pyelonephritis. Only one of the four patients had had intravenous pyelography with documentation of renal calculi (patient 5) prior to the occurrence of the affected pregnancy.

The presenting urinary complaint, trimester of onset and location of the calculus are seen in Table 2. The urological symptoms included fever, chills, costovertebral tenderness, classical ureteral colic and generalized peritoneal irritation with intestinal ileus. Significantly, two of the seven patients had only painless hematuria as their presenting complaint; one was associated with a small renal calculus and the other with

TABLE 1

General Characteristics

No. of Case	*Age*	*Parity*	*Urinary Tract Symptoms Prior to Pregnancy*
1	25	8	Pyelonephritis
2	23	4	None
3	22	2	Pyelonephritis
4	28	5	Pyelonephritis
5	35	8	Cystitis
6	27	7	None
7	22	3	None
Average	24.5 yrs.	5.0	

TABLE 2

Urological Data

No. of Case	*Urological Complaint*	*Trimester of Onset*	*Location of the Calculus*
1	Painless hematuria	Third	Left renal
2	Painless hematuria	Third	Bladder
3	Ureteral colic	Third, in labor	Right ureter
4	Acute pyelonephritis	Second	Right renal
5	None	———	Left renal, stag-horn calculus
6	Pyelonephritis	Third	Right renal
7	Generalized abdominal pain—ileus, fever, chills	Second	Left ureter—pelvic junction

two small bladder calculi demonstrated by cystoscopy.

In contrast to past reports,[2] symptoms referable to calculi in this series occurred in the second and third trimester of pregnancy. One of the seven patients had the onset of ureteral colic during the first stage of labor. The large staghorn calculus of the left kidney had been demonstrated prior to the onset of pregnancy.

In this small series of cases, the calculi were evenly distributed between the right and left urinary tracts. This would not be expected if urinary stasis was the only significant etiologic factor, since stasis is usually more marked in the right ureter, a phenomenon in part attributed to dextrorotation of the uterus.

Urinary cultures of these cases were all positive, as indicated in Table 3. The gram negative organism E. Coli was the offending agent in five of the seven cases.

Serum calcium ranged from 8.7 to 10.4 mgm % and serum phosphorus values from 2.8 to 4.0 mgm %, all within normal limits for our laboratory. Alkaline phosphatase determinations were no higher than elevations consistent with pregnancy. Similarly, uric acid values were within normal limits except for one value. In this case, the calculus that passed spontaneously was not a uric acid stone. Evaluation of BUN determinations revealed no significant compromise of kidney function in any of the cases. These data are given in Table 3.

No maternal mortalities or fetal wastage occurred in this series of term deliveries. Labor was spontaneous in all cases except one, in which induction was carried out because of prolonged rupture of the membranes.

In these seven cases, clinically significant urinary obstruction occurred in only one instance. Therapy during pregnancy in the non-obstuctive cases was limited to analgesics, hydration and appropriate antibiotics. In no instance was termination of pregnancy considered.

For clinicians who may have limited opportunity for extensive experience in the management of urinary calculi during pregnancy, the authors present one case history in detail and review statistics of other cases of this complication which were treated at the University of Missouri Medical Center between 1960 and 1965. The authors are from the Department of Obstetrics and Gynecology at the Medical Center, where Doctor Hall is Chairman, Doctor Griffin is Assistant Professor and Doctor King is a Macy Faculty Fellow.

One of the calculi passed spontaneously in the post-partum period, three were surgically removed following delivery and one was removed surgically during pregnancy because of left tract obstruction. Two of the patients refused surgical intervention. Because of the infrequency of obstructive uropathy during pregnancy, one case is presented in detail.

CASE REPORT

Case # 7. A 22-year-old gravida 3, para 2, aborta 0, whose LMP was 3-15-65 and EDC was 12-22-65, presented to the University of Missouri Medical Center, in her 24th week of pregnancy, with severe left flank pain of sudden onset, associated with nausea and vomiting. Past medical and obstetrical history was unremarkable.

Physical examination demonstrated an acutely ill woman whose blood pressure was 110/60, pulse 132/min and temperature 100°. Positive physical findings included marked left costovertebral angle tenderness and abdominal distention with the uterine fundus just above the umbilicus. Complete blood count demonstrated a hemoglobin of 9.4 gm % and a white count of 14,000. Microscopic examination of the urine revealed 25-35 white blood cells per high power field.

TABLE 3

LABORATORY DATA

		Serum Values				
No. of Case	*Urine Culture*	CALCIUM	PHOSPHOROUS	ALKALINE PHOSPHATASE	BUN	URIC ACID
1	Escherichia coli	8.7	3.3	14.4	8	3.5
2	Escherichia coli	10.4	3.9	12.4	10	7.1
3	Escherichia coli	9.2	2.9	13.4	9	4.0
4	Escherichia coli	8.8	3.1	14.0	8	3.3
5	Proteus vulgaris	9.6	4.0	10.0	14	3.1
6	Escherichia coli	9.3	2.8	14.8	12	—
7	Aerobacter aerogenes	9.2	2.8	—	7	4.5

The flank pain remained severe and localized. An intravenous pyelogram with shielding of the lower abdomen documented a hydronephritic calyceal system of the right kidney. The left kidney was not visualized. In the left renal area, a 1 cm radiopaque calculus was noted. In the 30-minute film, as well as a nine-hour film, no visualization of the left kidney occurred. After hydration, a left ureterolithotomy was completed with removal of a calcium stone. The post-operative period was unremarkable and the patient was discharged on the sixth post-operative day on broad spectrum antibiotics. The remainder of her pregnancy was unremarkable and she spontaneously delivered a viable 3,080 gm infant on 12-13-65.

Discussion

It is commonly stated that urinary lithiasis is a disease of middle age and, for this reason, is uncommon in pregnancy.[3] Such factors as the known solubilizing function of citric acid on calcium deposits may be of importance. It has been demonstrated that estrogen augments the excretion of citric acid and reduces calcium excretion.[4] Indeed, exogenous estrogen has been suggested in the medical management of urinary calculi. The major sequelae of urinary calculi are obstructive uropathy and recurrent infection resulting in progressive urinary tract damage with scar deposition. The alterations in ureteral function during pregnancy, which include dilatation, hypertrophy and atony, result in urinary stasis and reduced kidney drainage. These physiologic changes in maternal ureteral function during pregnancy complicated by calculi result in urinary tract infection. The relative infrequency of both obstructive uropathy and ureteral colic is probably attributable to physiologic ureteral dilatation. One instance of each was noted in this series of cases.

Urinary calculi should be suspected in any patient with recurrent pyelonephritis or cystitis. Failure of recognition may contribute to the establishment of resistant urinary tract infection and progressive renal parenchymal damage. Hematuria, even if painless, may be related to the presence of calculi. Individuals with a history of urinary calculi should be evaluated for recurrence. Detection of metabolic disorders responsible for more uncommon forms of lithiasis, such as cystine or oxalate varieties, must be completed.

The treatment of calculi in pregnancy is best termed expectant (Table 4). The existing infection is treated with antibiotics and hydration. Often, smaller stones will be passed spontaneously or can be removed with relative ease after delivery. In the event of severe obstruction, surgical intervention may be mandatory. Termination of pregnancy is rarely required in the treatment of urinary tract lithiasis.

Summary

Seven cases of urinary calculi occurring during pregnancy were reviewed. The sequelae of these

(Continued on page 229)

TABLE 4

Results of Pregnancy and Therapy for Calculi

No. of Case	*Results of Pregnancy*	*Calculi Therapy*
1	Spontaneous delivery of a 2540 gm. infant. B. T. L. *	Antibiotics during pregnancy. Refused resection of renal calculus.
2	Low forceps delivery of a 3460 gm. infant.	Antibiotics during pregnancy. Bladder calculi removed at cystoscopy in post-partum period.
3	Spontaneous delivery of a 3200 gm. infant.	Analgesics during labor. Spontaneously passed ureteral stone.
4	Pitocin induction of a 2820 gm. infant. B. T. L. Premature ruptured membranes.	Antibiotics during pregnancy. Renal stones removed by nephrotomy in post-partum period.
5	Low forceps delivery of a 3740 gm. infant. B. T. L.	Antibiotics during pregnancy. Stag-horn calculus removed by pyelonephrolithotomy following the post-partum period.
6	Low forceps delivery of a 4090 gm. infant.	Antibiotics during pregnancy. Refused surgery for removal of renal calculus.
7	Spontaneous delivery of a 3080 gm. infant.	Left ureteral obstruction at 24 wks. of pregnancy. Left ureteral lithotomy completed.

* B. T. L.—post-partum bilateral tubal ligation.

M. WENDELL DIETZ, M.D. *and* L. RICHARD WEBB, M.D., *Springfield*

Frustrations of Small Bowel Roentgenology

Few clinicians will claim a personal familiarity with radiologic signs of small intestinal disease. As a matter of fact, many radiologists confess to having never examined a patient with a demonstrable jejunoileal carcinoma, intussusception or Meckel's diverticulum.

Repetitious emphasis during the past decade of the merits of "small bowel consciousness" prompted a reappraisal of our files. We were chagrined, but hardly surprised, to find that these largely comprised advanced, obvious lesions with limited diagnostic challenge. A predictable improvement in results promptly followed a renewal of small bowel awareness coupled with a fresh, practical approach to jejunoileal surveying at the time of gastroduodenal examination. Largely from this material, eleven categories of diagnostic "misses" were selected to point up the scope of potential errors.

The peculiarities of small intestinal disease have been repeatedly stressed. These lesions occur infrequently, lack distinctive clinical features and often are totally unsuspected. The variety of predominately small bowel disease is notable, as are the number of syndromes with indistinguishable manifestations. This portion of the digestive tract is relatively immune to neoplasm; tumors tend to remain silent until the onset of complications and, perhaps, incurability. Notwithstanding the validity of these basic idiosyncrasies, too few "small bowel-minded" clinicians and too many overburdened radiologists undoubtedly enhance current neglect of the small bowel.

From the viewpoint of the fluoroscopist, the technical deterrents to accurate roentgenology are many. The small intestine is too long, too mobile, too overlapping, too variable in transit time. Barium filling is a passive process (dependent upon peristalsis). Infants and young children are too trying to examine and findings too difficult to interpret. Ileal examination must be complemented by barium enema studies to be complete.

Perhaps the radiologist subconsciously rebels at the necessity for compromise of fundamental technics scrupulously utilized in other gastrointestinal studies. Optimum sigmoid evaluation, for instance, embodies studies during distention with barium, contraction after evacuation and, often, after air-injection for a double contrast effect. The gastric antrum and the cecum must be compressed by the fluoroscopist's gloved hand. Impossible maneuvers in the case of the small bowel! Every inch of the duodenal bulb must be visualized fluoroscopically and in the radiologist's spot films. Many feet of small bowel may be unopacified during filming by a technician!

An individualized small bowel series, entailing variable-timed exposures (unlike any other X-ray investigation) is a time-consuming impediment to the usual overloaded, understaffed X-ray department. Finally, earnest attempts at routine small intestinal surveying yield few dividends compared with established routine studies.

Eleven sources of frustration in "disreputable" small bowel roentgenology are described and illustrated in the following reports of proved cases.

Nonspecific Primary Lesion

Exploratory laparotomy would be required less often for small bowel diagnosis if such diverse abnormalities did not seemingly contrive to mimic each other. Nowhere within the course of the small intestine do more "masqueraders" perplex the diagnostician than in the ileocecal area.

To emphasize the nonspecificity of several

After enumerating inherent and radiologic causes of misdiagnosis in small bowel roentgenology, the authors describe a series of illustrative cases of misleading entities from their own teaching collection. Doctor Dietz is Director of the Department of Diagnostic Radiology at Burge-Protestant Hospital and Clinical Assistant Professor of Radiology at the University of Missouri School of Medicine. Doctor Webb specializes in roentgenologic and endoscopic gastroenterology at Burge-Protestant Hospital.

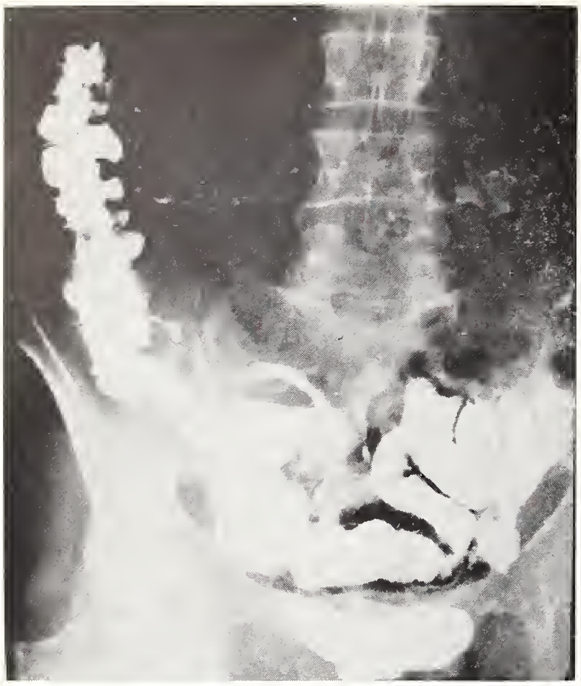


Fig. 1 Nonspecific primary lesion: Granulomatous enterocolitis.

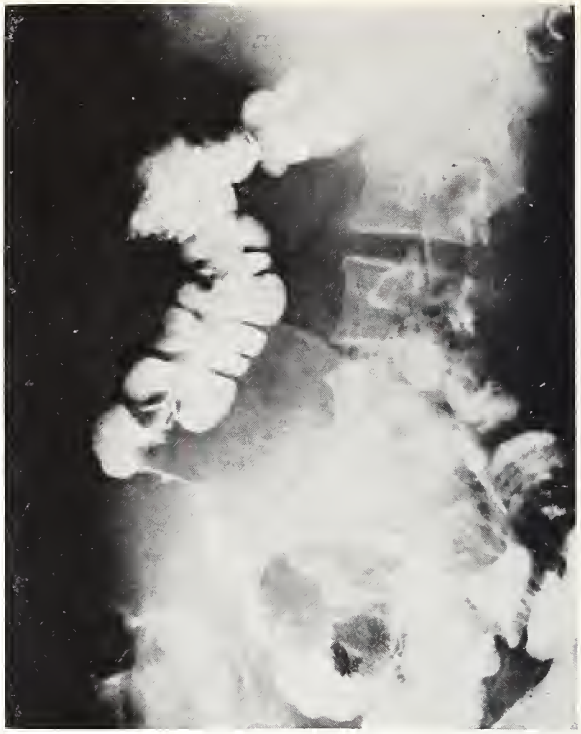


Fig. 2 Nonspecific primary lesion: Tuberculous enterocolitis.

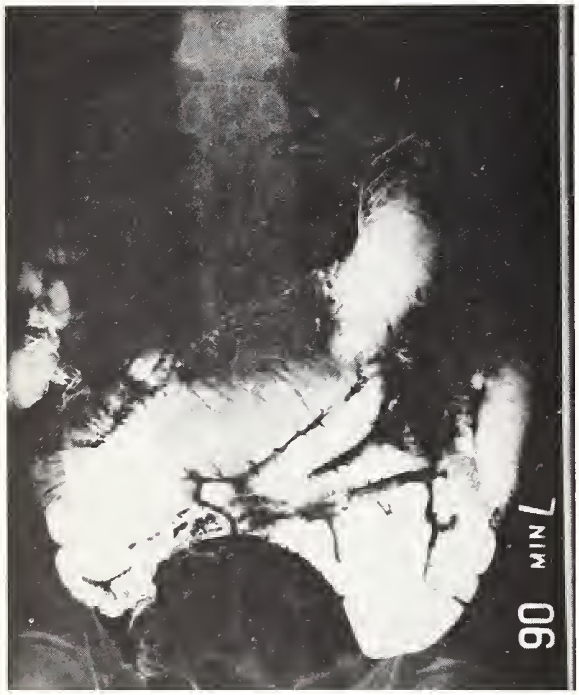


Fig. 3 Nonspecific secondary roentgen sign: Partial mechanical obstruction of regional jejunitis.

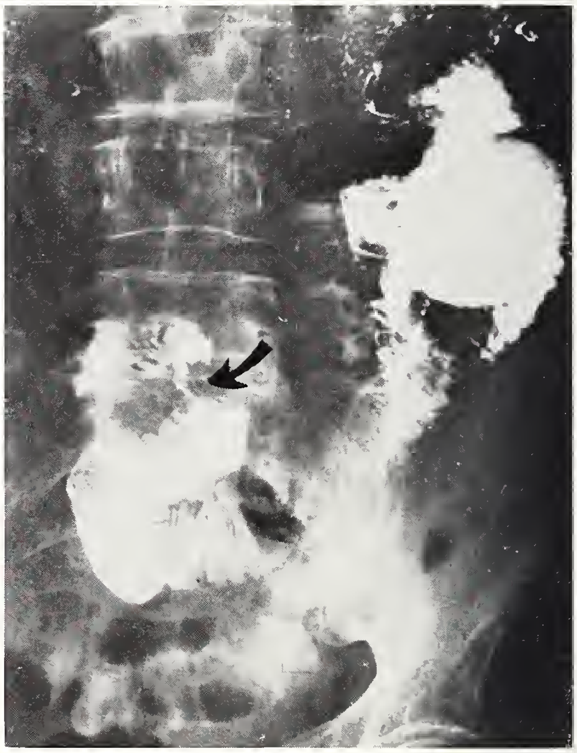


Fig. 4 Nonspecific secondary roentgen sign: Stricture of jejunal metastasis.

significant distal ileal diseases, Figs. 1 and 2 compare granulomatous and infectious processes with remarkably similar features. In these cases, the clinical management and prognosis vary enormously. Thus, differentiation is not of academic importance only. Fig. 1 reveals the stenotic phase of regional enteritis. A markedly narrowed, rigid terminal ileal segment is curved about a surrounding inflammatory mass. This loop contains inflammatory polyps; its mucosa is ulcerated. An adjacent segment of ileum is dilated. The cecum is spastic and narrowed with course irregularity of its contours. Fig. 2 demonstrates tuberculous enterocolitis in a patient without pulmonary tuberculosis. Similar mucosal effacement and destruction are apparent in the constricted distal ileum. A fistula extends medially from the terminal ileum to the mesentery. The cecum is purse-shaped and the proximal colon is generally shortened.

The concept of convergence (dissimilar lesions producing similar roentgen signs) is particularly applicable to the lengthy constricting, ulcerating ileal diseases with cecal extension. Differential diagnosis often includes "cathartic colon" enterocolitis, carcinoid, lymphosarcoma and Hodgkin's disease.

NONSPECIFIC SECONDARY ROENTGEN SIGNS

A. Partial Mechanical Obstruction. Retrospective analysis of preoperative causative diagnoses of this commonly occurring small bowel lesion is disconcerting. Invariably, cases labeled with exotic etiologic agents are proved by operation to be postoperative adhesions or "bands." Conversely, exploration has proved some of our most conformable obstructive syndromes to be secondary to noteworthy abnormalities.

To illustrate, Fig. 3 reveals an authentic acute, incomplete jejunal obstruction in an 85-year-old man without prior gastrointestinal complaints. A history of multiple abdominal operations suggested the probability of adhesions as the cause of the blockage. Resection of a stenotic, ulcerated jejunal loop disclosed regional enteritis. (The primary lesion may be undetected because of superimposed dilated loops, prolonged barium transit time or the ease with which the fluid contrast agent bypasses the constriction.)

B. Stricture. In instances of less advanced mechanical obstruction, oral barium may precisely map the site, limits and configuration of a stenotic small intestinal process. The solitary midjejunal stricture, well-documented in Fig. 4, was consistent with the clinical syndrome of abdominal carcinosis with partial obstructive bowel involvement. Operation had been performed seven months earlier for cecal adenocarcinoma with metastatic lymphadenopathy. Biopsy studies confirmed the presence of widespread recurrent carcinoma. Without such conspicuous indication of the correct diagnosis, the nonspecificity of a constriction of this nature may preclude preoperative interpretation.

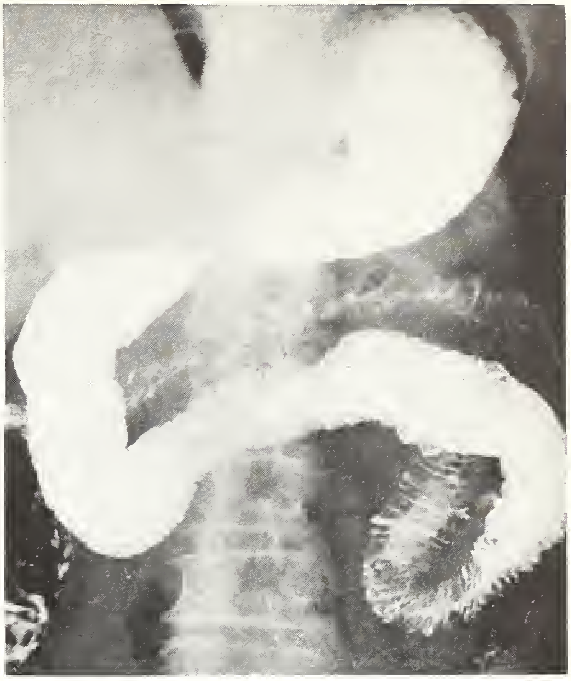


Fig. 5 Nonspecific secondary roentgen sign: Mucosal distortion of intramural hemorrhage.

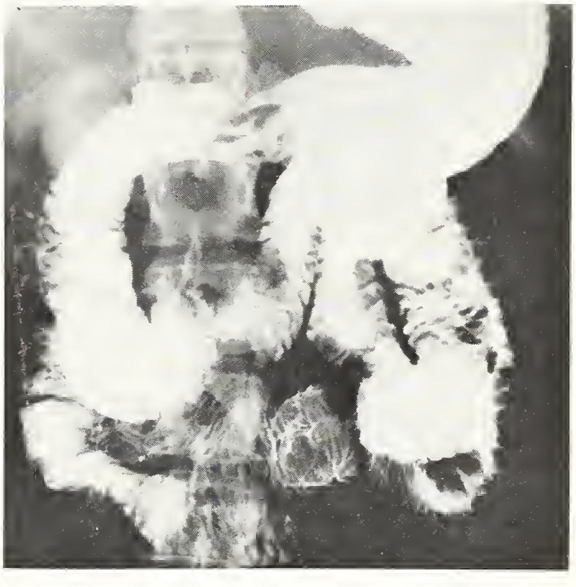


Fig. 6 Nonspecific secondary roentgen sign: Mucosal distortion of granulomatous jejunitis.

Localized ulceration with subsequent fibrosis and stricturing has recently gained considerable popularity as cases linked to oral potassium administration (with thiazide diuretics) have been reported. The ulcer is rarely deep enough to admit sufficient barium to be seen. A similar "stenosis-dilatation" complex less often occurs in regional enteritis, Zollinger-Ellison syndrome, segmental infarction or Hodgkin's disease.

C. Mucosal Distortion. Differentiation may be impossible in some phases of such diverse diseases as malignant lymphoma, granulomatous enteritis or intramural hemorrhage. From a roentgen standpoint, the nonspecificity of dilatation and atony of paralytic ileus, as well as the rugal alterations shown in Figs. 5 and 6, may create insolvable diagnostic enigmas.

The original roentgenograms of these cases revealed a striking similarity of findings. Nevertheless, Fig. 5 is from a study of a critically ill, 71-year-old female with clinical and operative evidence of mesenteric vascular occlusion. Fig. 6 is from an interim study of a 31-year-old female with known granulomatous enterocolitis. In each, there are mucosal alterations suggesting intramural hemorrhage (thickened folds with sharply delineated margins and a parallel arrangement producing a symmetrical, spike-like or stacked coin configuration).

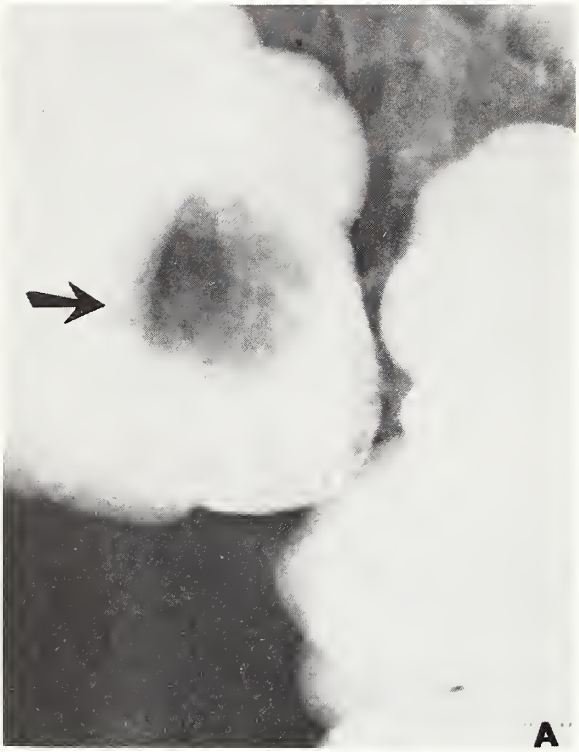
In the case of regional jejunitis, there was less delay in transit time of the barium meal and less uniformity and exaggeration of the abnormal mucosal folds.

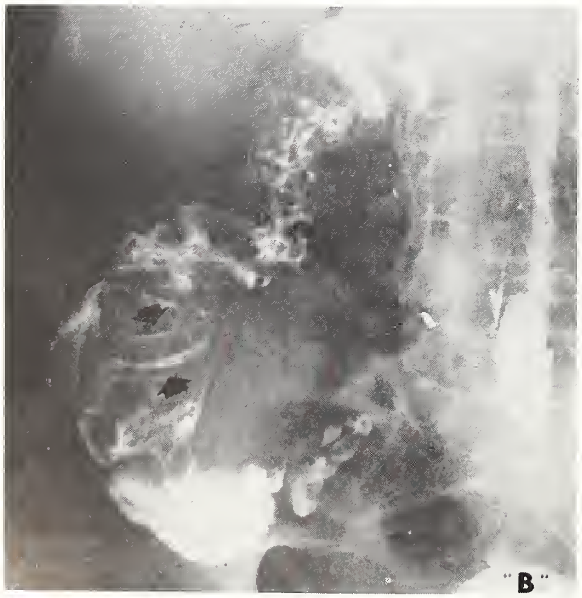
Not only blood and edema can produce this characteristic small intestinal fold pattern. Either pus or tumor or even dilated lymphatics can mimic "intramural intestinal hemorrhage" mucosal distortions.

Minute Lesion

Some small intestinal lesions are rarely demonstrable because of their size, such as carcinoids, lymphangiectasia, telangiectasia or polyps of the Peutz-Jeghers type. Roentgen changes as well as symptoms may be wholly secondary to complications.

Fig. 7 presents three phases of the colon examination of a 59-year-old male patient whose primary disease was a pea-sized, submucosal carcinoid of the terminal ileum. This tumor was silent until it precipitated an ileocecal intussusception. A barium enema film, "A," revealed a large, round intracecal mass suggestive of a colon cancer. A post-evacuation film, "B," indicated distal migration of the intraluminal mass





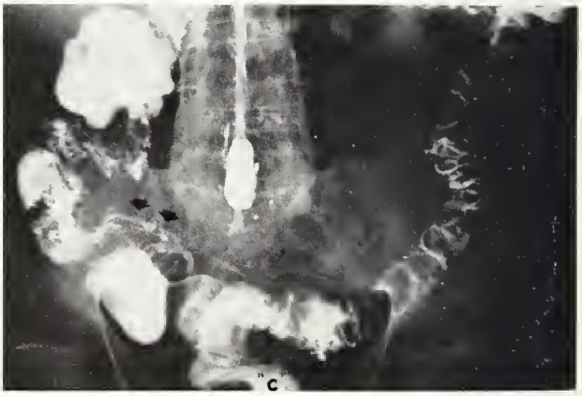


Fig. 7 Minute lesion: Carcinoid of terminal ileum precipitating ileocecal intussusception.

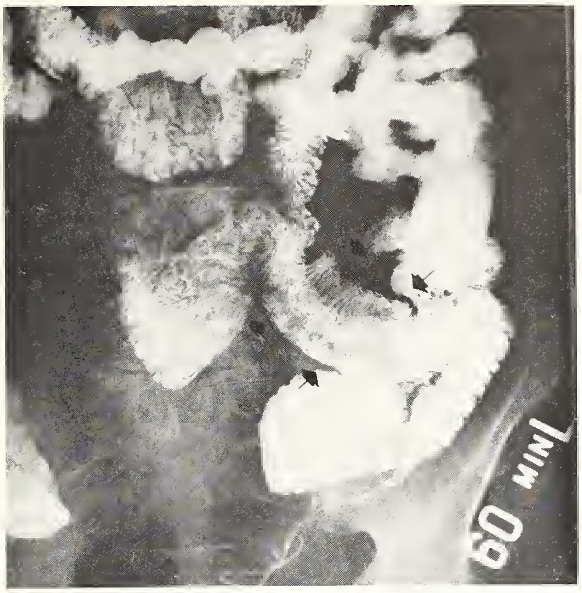


Fig. 8 Reducible lesion: Intussusception of jejunum.

without reflux of barium into the ileum. Arrows indicate several spiral folds (the peripheral intussuscipiens) perpendicular to longitudinally directed rugae within the central intussusceptum.

Twenty-four hours later, the post-evacuation view of a second barium enema, "C," revealed neither a mass nor an insusussuception. Passage of barium into the terminal ileum (arrows) now proved the reduction of the ileocecal intussusception. The cause remained conjectural until surgical exploration.

Reducible Lesion

Intussusception is frequently regarded as an unrelenting abdominal catastrophe requiring prompt surgical intervention. Furthermore, adult intussusception is usually considered to be secondary to a discrete intrinsic bowel lesion. Finally, intussusception has been described as "almost invariably associated with intestinal obstruction."

Nevertheless, intussusception with none of these characteristics is far from unusual. In the adult, intussusception may be transient, self-reducing and recurrent. Fig. 8 portrays such a case in a 55-year-old female. The jejunal intussusception demonstrated in this study was proved at laparotomy to be functional, i.e., no etiologic agent. The patient was hospitalized because of long-standing abdominal complaints clinically compatible with the classic intussusception symptom-triad of pain, vomiting and melena.

In this initial small bowel study, arrows point to the dilated intussuscipiens with its "coiled-spring" pattern in a proximal jejunal loop. The film nicely demonstrates the non-opacified zone separating the peripheral spiral rugae from the central canal of the intussuscepted loop. Reexamination two days later in a further effort to locate a precipitating lesion revealed a second site of intussusception involving a distal jejunal segment.

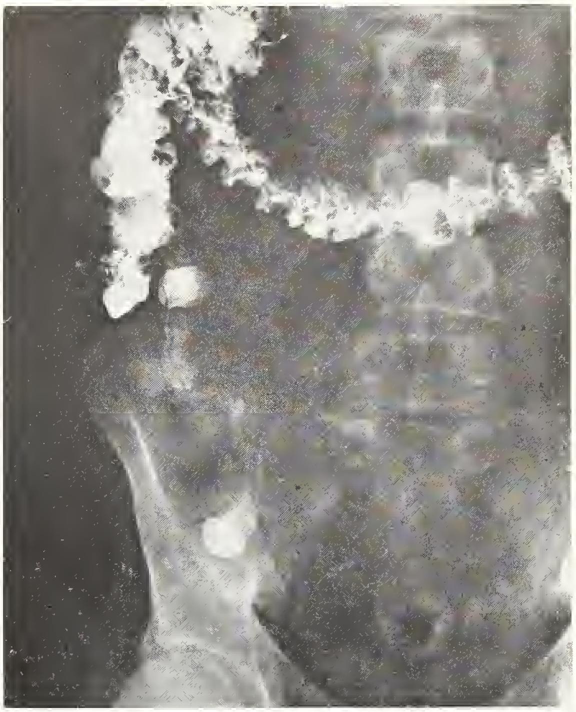


Fig. 9 Capriciously-demonstrable lesion: Meckel's diverticulum.

Capriciously-Demonstrable Lesion

"The most common congenital abnormality of the gastrointestinal tract," Meckel's diverticulum, is demonstrated in Fig. 9. Although present in 3% of patients, Meckel's diverticulum is rarely visualized roentgenologically. It is "frequently suspected, often looked for, but seldom found."

A 35-year-old male patient was hospitalized because of abdominal cramping, weakness and melena more than four years after discovery of the lesion. Resection revealed that the Meckel's diverticulum contained a bleeding ulcer.

Major reasons for failure to opacify this abnormality include:

> The lumen of a Meckel's diverticulum may equal that of the ileum. It may empty readily and when filled be easily confused with an ileal loop.
>
> The presence of mucosa within the diverticulum increases the likelihood of confusing it with adjacent ileum.
>
> Lack of a characteristic appearance because

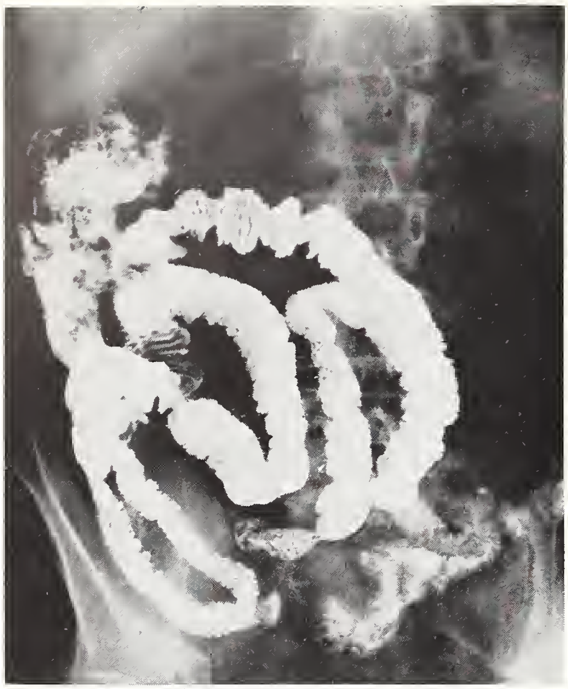


Fig. 10 Invisible lesion: Carcinoid of ileum.

of marked variability in size, shape and location hinders preoperative recognition.

Unlike acquired diverticuli, a Meckel's diverticulum contains all bowel layers. Muscular contractility can alter its shape and prevent barium from entering or can expel the contrast medium.

Non-opaque intraluminal material can prevent barium from entering.

When inflamed or obstructed, a Meckel's diverticulum rarely admits barium.

Due to the motility of the small bowel, a Meckel's diverticulum may vary in position even in consecutive abdominal films.

INVISIBLE LESION

Fig. 10, a representative film from a detailed small bowel study, reveals an ileoileostomy but no other manifestation of intra-abdominal disease. This postoperative examination was of a 53-year-old male with recently proved ileal and mesenteric involvement by disseminated carcinoid. An exploratory laparotomy had been performed despite several adequate negative studies because of recurrent attacks of severe abdominal pain with vomiting, suggestive of partial bowel obstruction.

Celiotomy revealed diffuse studding of the ileocecal segments, mesentery and the entire pelvis by tumor masses ranging up to 1 cm in diameter. A distal ileal loop was so sharply angulated by incorporation in a mesenteric mass that "it was almost completely obstructed." Proximalward, the ileum was dilated, thickened and the site of numerous serosal implants.

The uniformly negative pre-operative and postoperative examinations exemplify two facets of small intestinal "misdiagnosis": not only may disease be extensive without producing X-ray findings, but advance knowledge of its location may be of no diagnostic benefit. Sometimes there is no explanation for total failure to demonstrate small bowel disease roentgenologically!

NON-REPRODUCIBLE LESION

There exists an even more overwhelming experience than the ineffectual flounderings of the diagnostician in the case of the "invisible lesion"—the single, but irrefutable, demonstration of an abnormality that cannot be reproduced despite precise knowledge of its location, size and general character.

Fig. 11 is the 10-minute projection of a stomach examination performed on a 47-year-old male without gastrointestinal complaints. This patient, hospitalized because of vague respiratory symptoms, requested a thorough physical examination prior to discharge.

The film not only reveals a prominent deformation of a proximal jejunal segment by a mass, but also permits identification of an associated extramural soft tissue component (arrows). Inas-

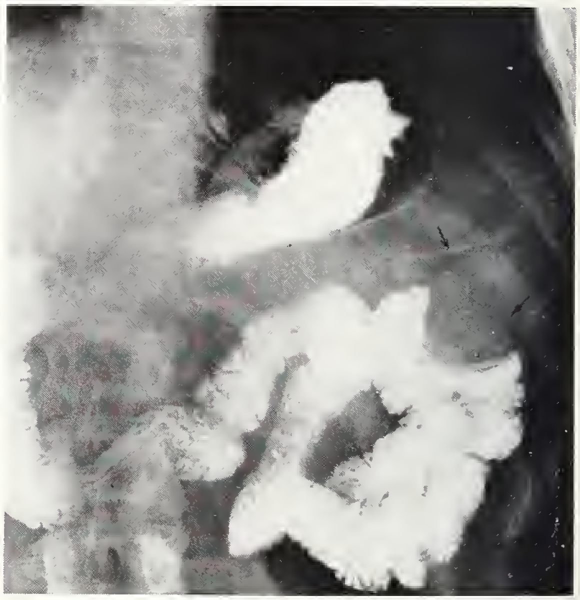


Fig. 11 Nonreproducible lesion: Leiomyoma of jejunum.

much as the involved jejunal loop was situated peripherally, it was obscured by neither an overlying barium-filled stomach nor by superimposed small bowel. There was, therefore, no explanation for failure to confirm the deformity by multiple fluoroscopic and radiographic efforts performed immediately after its detection.

The attending surgeon insisted on a second study not only because he distrusted the one-film demonstration, but also because the patient was asymptomatic. A meticulous, thorough reexamination under identical conditions failed to reveal any abnormality. At operation, the surgeon had no difficulty in locating an encapsulated tumor within a jejunal loop approximately one foot beyond the duodenojejunal junction. Final diagnosis was a jejunal leiomyoma.

Subtle Lesion

Film studies of a number of insidious small bowel lesions, particularly when productive of functional type symptoms, may be quite deceptive. An uncommon developmental anomaly, internal (paraduodenal) hernia illustrates this type of diagnostic error.

The history of a 38-year-old female was typical. She had recurrent attacks of cramping abdominal pain, nausea and occasional vomiting. Previous gastrointestinal studies by several experienced fluoroscopists were called negative.

Fig. 12 reveals a circular collection of jejunal loops clumped within the left upper abdomen. These elevate and compress the greater curvature aspect of the stomach. An emerging ileal loop descends vertically from the coiled segments to the right of the midline (arrow) to normal distal segments in the inferior abdomen. Configuration of the jejunal segments suggests confinement in "a spherical transparent bag" in the vicinity of the duodenojejunal flexure.

These are the major diagnostic features of a left paraduodenal hernia, the most common of the internal hernias. The mouth of this sac opens to the right and the hernia lies behind the descending mesocolon. Often, the entire small bowel resides in the sac.

In this case, the jejunum entered the sac immediately. Neither change in posture nor manipulation altered the restricted movement of the incarcerated segments. There was no dilatation or constriction of the loops and no delay in barium transit. Perhaps the frequency of irrelevant malposition syndromes allied with intrinsically negative loops delayed detection of this lesion.

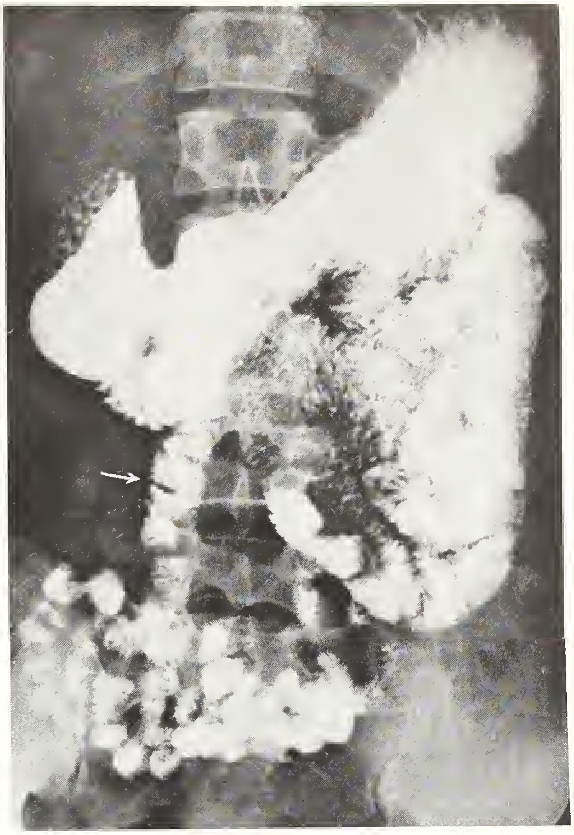


Fig. 12 Subtle lesion: Paraduodenal hernia.

Unparalleled Lesion

Radiodiagnostic tenets governing neoplasms, intramural hematoma, intussusception or obstructive phenomena are applicable wherever these digestive tract lesions exist. Without a counterpart elsewhere, diseases unique to the small bowel exaggerate the diagnostician's dilemma. Regional enteritis, Zollinger-Ellison syndrome and Whipple's disease produce patterns peculiar to the small intestine. The varied causes of the primary type of malabsorption syndrome (e.g., gluten-induced enteropathy), as well as secondary malabsorption syndromes (e.g., amyloidosis), may be undecipherable, particularly because of similar roentgen changes.

Fig. 13 is a typical projection exposed during an investigation of a 31-year-old female complaining of intermittent crampy abdominal pain and a remarkable amount of borborygmus. The roentgen examination revealed generalized small bowel dilatation with replacement of normal mucosal patterns by a monotonous lace-like rugal distortion interrupted only by numerous intraluminal polypoid masses. Although these ab-

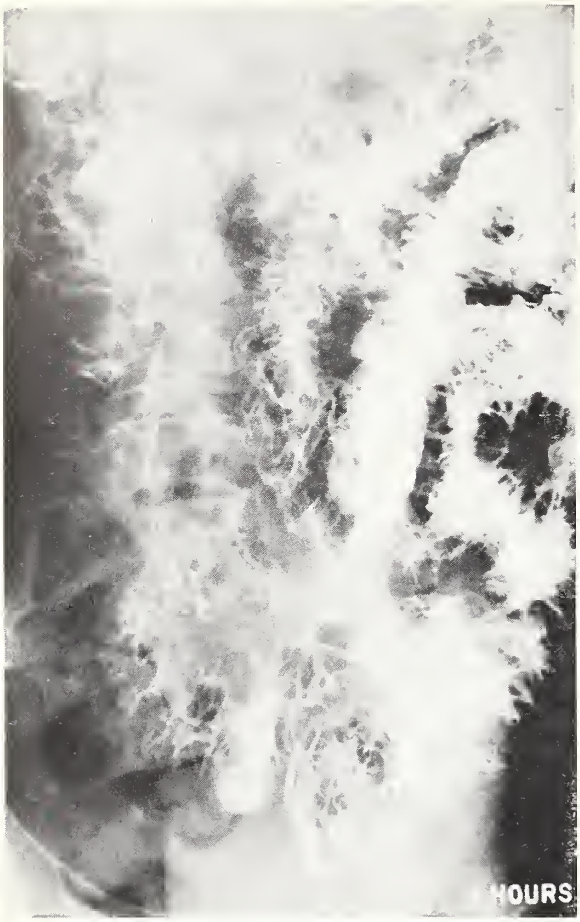


Fig. 13 Unparalleled lesion: Lipomatosis.

normalities extended from the pyloric level to the ileocecal valve, the colon was entirely free of abnormality. An exploratory laparotomy revealed a unique fatty infiltration of all layers of the bowel. Biopsy studies indicated that the submucosal nodules were lipomas. Intramural infiltrative processes as well as lymphadenopathy were secondary to lipomatosis.

Frequent Lesion: Ordinarily Innocuous

Physicians are apt to regard X-ray reports of jejunoileal (and particularly, duodenal) diverticula as "essentially negative." Even when the diverticulum is reported as the only abnormality at fluoroscopy or autopsy, little consideration may be paid to it as the source of unexplained gastrointestinal bleeding. This casual attitude toward these acquired lesions is ordinarily warranted. Nevertheless, that jejunal diverticula may be the origin of even massive gastrointestinal hemorrhage can no longer be challenged.

Although roentgen recognition of these lesions is simple, demonstration of an ulcer crater within the diverticulum is rarely possible. However, even when jejunal diverticula have been found at operation to have been the source of bleeding, the actual bleeding point has rarely been demonstrated in the excised specimens.

Fig. 14 demonstrates a proximal jejunal diverticulum in a 63-year-old female hospitalized for investigation of melena. Abdominal symptoms and signs were absent. Ulceration within the diverticulum was not conclusively demonstrated roentgenologically nor was it apparent following diverticulectomy. Nevertheless, the sac was filled with blood when it was located at operation.

Several other surgical complications of diverticula occur uncommonly. Acute intestinal obstruction is one of the most frequent. It may be produced by intussusception, volvulus or post-inflammatory adhesions. Acute diverticulitis and various neoplastic lesions have been described. Diverticular rupture may occur secondary to enteroliths, foreign bodies, trauma or vascular compromise.

Inexplicable Lesion

Within the files of every radiology department are instances of small intestinal abnormality that

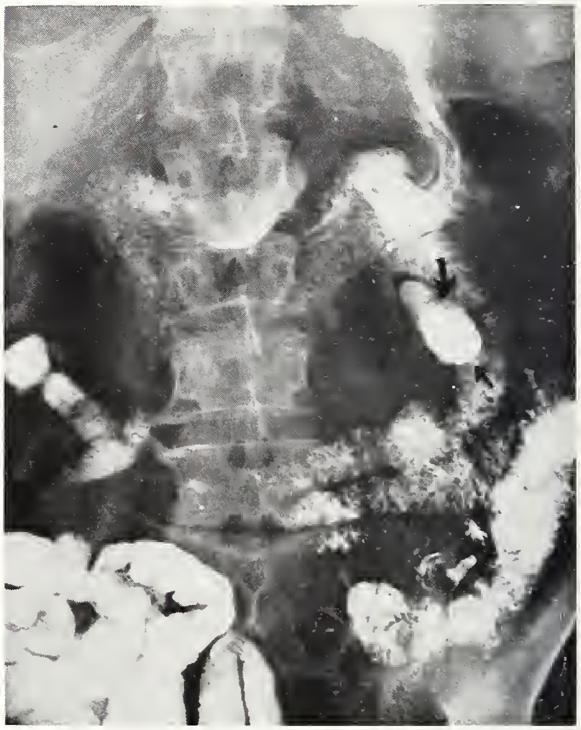


Fig. 14 Frequent lesion, ordinarily innocuous: Diverticulum of jejunum.

elude classification. Often, the optimistic examiner clamoring for a "second look" is thwarted by irrevocable circumstances, such as serious unrelated illness, lost to follow-up status or refusal of patient to undergo re-examination or physician's disinterest. Even a constant, impressive deformity may be clinically insufficient to warrant surgical exploration or even ancillary investigations.

Such an enigma is exemplified by the case illustrated in Fig. 15. The patient was a healthy 18-year-old male hospital employee. Out-patient diagnostic studies were scheduled because of the sudden occurrence of asymptomatic melena during a three day interval. Physical and laboratory examinations were uniformly negative. The arrows indicate the only positive findings identified in both barium meal and enema series. Neighboring jejunal loops are the site of arcuate, marginal subtraction defects of non-obstructive type. Could these be submucosal leiomyomas, hematomas or, perhaps, extrinsic pressure indentations from mesenteric nodules?

The patient returned several weeks later for re-evaluation. Absolutely no small bowel abnormality could be demonstrated!

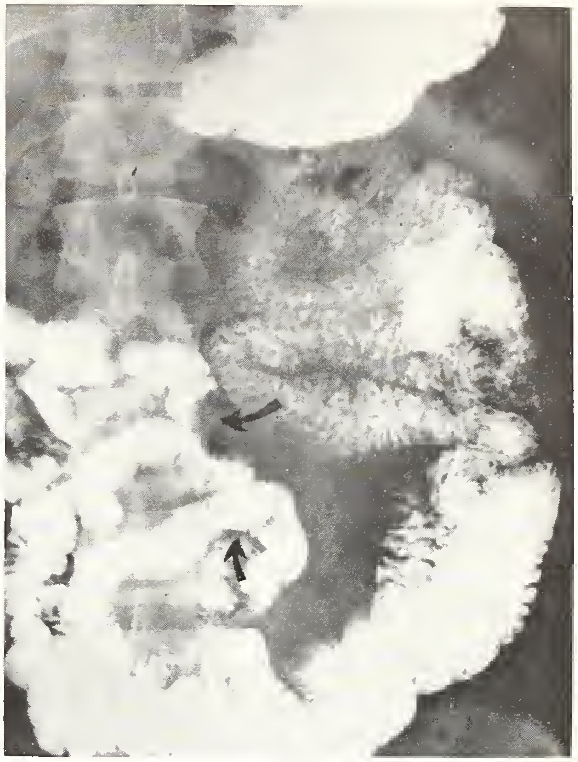


Fig. 15 Inexplicable lesion: ? ? of jejunum.

Urinary Calculi (Cont'd)

calculi were noted, particularly the establishment of upper urinary tract infection.

One case of obstructive uropathy in the midtrimester of pregnancy was presented in detail. No maternal or fetal mortalities occurred and none of the pregnancies required termination prior to term. Diagnosis and treatment of this problem were presented.

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HARLEY T. WRIGHT, B.S., ***Columbia***

Multi-Species Study of Congenital Malformations in Missouri

CONGENITAL MALFORMATIONS in the United States rank second among the leading causes of death in children less than one year of age.[1] Causal relationships of some malformations are known or are suspected; however, in others, they remain either obscure or unknown. It has been documented that a certain number of defects are related to prenatal infections, but there are also a number of physical and chemical factors which have been postulated as being associated with such birth defects. To determine possible causative factors of these congenital anomalies, epidemiologic investigations are essential. The first steps in such an investigation consist of determining the types of malformations occurring in Missouri and their exact geographic location. This will establish baseline rates so that surveillance of fluctuations in incidence can be noted and investigated.

The purpose of this paper is to acquaint the physicians of Missouri with the study of congenital malformations now being initiated in Missouri. The study is being done under the auspices of the Environmental Health Center of the University of Missouri for the ultimate purpose of identifying specific environmental factors related to congenital anomalies.

An epidemiologic study of congenital malformations is being initiated in Missouri on a statewide basis. After anomalies among human beings, domestic and wild animals are identified and located geographically, they will be investigated with the ultimate purpose of determining possible causal relationships between environmental factors and birth defects. Doctors Marienfeld and Silberg and Mr. Wright are from the Department of Community Health and Medical Practice, University of Missouri School of Medicine, where Doctor Marienfeld is Professor, Doctor Silberg is Assistant Professor and Mr. Wright is Instructor. Doctor Menges is Assistant Professor in the Department of Community Health and Medical Practice and from the Section of Public Health, Department of Veterinary Microbiology, University of Missouri School of Veterinary Medicine. Mr. Crawford is Superintendent of the Game Research Section, Missouri Department of Conservation. This study is supported by the U.S.P.H. under Grant No. E.S.-00082.

The studies of congenital anomalies which have been carried out in the past were usually occasioned by an "epidemic" situation or were based upon single occurrences followed by retrospective surmise. The lack of reliable background or baseline information on the usual rates of occurrence within the "population at risk" has made such studies relatively unrewarding, except under the rare and serendipitous circumstances surrounding such studies as those occasioned by the recent thalidomide episode.

The major problems in the conduct of such population-wide studies have included: the question of the reliability of the data based upon the reporting of congenital abnormalities upon the birth certificates; the lack of consideration given to stillbirths and the deaths of infants under one year, which may also have been caused by hidden congenital defects; and the small total number of human birth defects, which does not allow the easy detection of geographic differences in rates except over a long period of observation.

The Missouri study is made possible only through the excellent and continually improving reporting of congenital abnormalities by the physicians in this state. The second problem is being approached through surveying and statistically analyzing the stillbirths and the deaths of infants under one year of age. This is being done to detect the possibility of anomalies which were so severe that the fetus did not survive to term or which caused the infant to succumb during the early months of life.

The problem of the relatively small number of cases is being resolved by extending the study to species other than the human, using both domestic animals and wildlife. The significance of this addition may be estimated from the fact that the annual production of swine in one county in Missouri exceeds the total human births in the entire state. The detection and reporting of congenital abnormalities in these animals and of the fetal resorption index in wild rabbits will add greatly to the possibility of the rapid identification of high rate areas or periods of time. This will in turn allow for detailed epidemiologic investigation at a time which is sufficiently early to identify possible environmental factors before they have changed and have been lost to detection. In addition, the shorter pregnancy in animal species will perhaps, in some instances, enable increased attention and the earlier application of preventive measures than would be allowed by the longer period of human gestation.

Finally, such a study would not be possible without the newly developed capacity for massive data handling through the use of the computer. The statewide geographic multiple species data will be simultaneously entered into the computer and a monthly analysis will be done to rapidly detect geographic combined species changes in the rates of congenital abnormalities.

A multi-species study such as this requires a team approach. Investigators at the University of Missouri who are participating in this study represent the fields of epidemiology, medicine, veterinary medicine, agriculture, the cooperative extension service, statistics and computer science. The Missouri Department of Conservation, the Division of Health and the Missouri Crippled Children's Service are making the study possible through their participation and cooperation. Finally and most importantly, the data would not be available were it not for the participation of the physicians and the farmers of this state. The various phases of the study are briefly described in the following paragraphs:

Human Phase

Through the cooperation of the Missouri Division of Health and the Missouri Crippled Children's Service, pertinent information as to the number and place of occurrence of birth abnormalities has now been collected over a 12-year period of time (1953-1964) to establish baseline rates of children born with congenital anomalies. Having established such a baseline, determinations can now be made of any marked fluctuations in incidence rates from one time period to another. A significant rise in incidence would be a presumptive indication that something out of the ordinary was occurring. The increased incidence and any future prospective epidemiologic investigation would then be discussed with the physicians.

TABLE 1

Number and Incidence of Reported Cases With Congenital Anomalies in Missouri, by Year, 1953-1964

	No. Cases Per Year Congenital Anomalies	*No. Live Births*	*Incidence Per 1,000 Live Births*
1953	710	91,447	7.8
1954	636	93,453	6.8
1955	697	93,997	7.4
1956	722	96,099	7.5
1957	767	97,161	7.9
1958	753	96,721	7.8
1959	691	98,537	7.0
1960	734	97,783	7.5
1961	712	97,321	7.3
1962	692	93,879	7.4
1963	686	90,363	7.6
1964	634	88,395	7.2
Average	703	94,596	7.4

From the vital statistics data already collected, a reasonable estimate of the magnitude of congenital anomalies in Missouri has been established.[2] From 1953 through 1964, there were 8,407 cases with one or more anomalies reported in Missouri (Table 1). The average annual incidence rate for the period was 7.4 cases per 1,000 live births. Although the total number of cases represented 11,081 different types of defects, over 50% of all anomalies reported were contained within the categories of cleft lip and/or cleft palate, club foot, cranio-spinal anomalies and external urethral anomalies (Table 2).

While there were some differences in average annual incidence rates for individual counties, an explanation of these differences cannot as yet be determined. Until further and more definitive study can be done, it must be assumed that the observed differences are due to such artifacts as the variability of the recording of information on birth certificates and the external visibility of the defect. Utilizing available army artillery grid maps in the prospective study, each new case is

TABLE 2

Classification of Congenital Anomalies Reported in Missouri, by Body System, 1953-1964

TYPE	*Malformations*	NUMBER
Central Nervous System		
	Anencephaly	254
	Encephalocele	25
	Spina bifida	712
	Hydrocephalus	314
	Microcephalus	55
	Mongolism—diagnosed or suspected	423
	Others—brain and spinal cord	24
Special Sense Organs		
	Anophthalmos	30
	Microphthalmos	7
	Cataract	28
	Coloboma	6
	Glaucoma	5
	Others—eye	49
	Absence—external ear	12
	Others—ear	185
	Absence—nares	2
	Others—nose	56
Circulatory System		
	Tetralogy	9
	Patent ductus	19
	Septal defect	79
	Coarctation—aorta	8
	Heart disease—suspected	156
	Others—heart	463
Alimentary and Respiratory Organs		
	Cleft lip and/or cleft palate	2,242
	Others—oral cavity	85
	Others—respiratory system	66
	Tracheo-esophageal	144
	Atresia—intestines	115
	Imperforate anus	188
	Others—G.I. system	78
Abdominal Cavity		
	Diaphragmatic hernia	88
	Omphalocele and eventration—intestines	229
	Hernia	73
	Others—abdomen	5
G.U. System		
	Epispadias or hypospadias	572
	Extrophy—bladder	22
	Hydrocele	98
	Other male genital	64
	Female genital	60
	Urethra and bladder	35
	Others—urinary tract	21
	Agenesis—kidney	29
	Cystic kidney	47
	Others—kidney	10
Bones and Joints		
	Achondroplasia	35
	Syndactyly	451
	Polydactyly	817
	Club foot	1,482
	Dislocation—hip	60
	Missing extremity	147
	Others—extremity	386
	Others—head and trunk	225
	Bone and cartilage	15
Other or Unspecified Anomalies		
	Skin	104
	Hemangioma, lymphangioma	51
	Conjoined twins	10*
	Monsters	19
	Others unspecified	87

* Five sets of twins.

now being located within a geographic accuracy of 100 meters. An analysis for clustering of cases will facilitate the formulation of hypotheses in regard to possible sources of the problem. As areas of high and low incidence are identified, future epidemiologic investigations may be expected to reveal causal relationships between certain environmental factors and congenital anomalies.

Domestic Animal Phase

The second phase of the study consists of surveying the swine producing farms in the state to determine the extent of congenital defects in newborn piglets. As with the human population, areas of high and low incidence of malformations will be identified for more thorough epidemiologic investigations. The University of Missouri Extension Service is cooperating in this statewide study. A postcard form will be mailed every six months to every swine producer, who will be asked to check for abnormalities and to return the card to the Director of the Extension Center in his county. A separate list describing the various common defects will be mailed simultaneously.

A pilot survey began in Nodaway County in November, 1966. This was designed primarily to test the questionnaire and to determine the response rate. Veterinarians, physicians and the extension director in Nodaway County are participating in this project and are cooperating in obtaining the data. To alert all the farmers in Nodaway County to the project and to explain the need for their help, an introductory letter was mailed to them. Enclosed with the letter was a brochure containing sketches and a brief description of certain common birth defects in swine. Depending upon the success of the pilot study, plans are to begin the total state survey in 1967, and this will continue for an indefinite period of time. Periodically, information that has been programmed for the computer will be retrieved and analyzed. Areas of epidemiologic interest will thus be identified for further consideration.

Through the School of Veterinary Medicine, veterinarians throughout the state have also been asked to furnish information on unusual products of pregnancy in domestic pets. Although the number of live births in the domestic pet population cannot be determined from veterinary hospitals and clinics alone, the information obtained, together with data on humans and domestic animals, will give us additional clues as to the geographic distribution of cases.

WILDLIFE PHASE

The Missouri Department of Conservation, through its Game Research Section, will participate in the third phase of the survey. Since 1957, a Research Section study has monitored the annual changes in reproductive rates in selected populations of cottontail rabbits in Missouri and the rates of fetal resorptions have been routinely determined. Evidence has indicated that fetal resorptions normally constitute about 5% of the total implanted embryos. While it has not been possible to determine the rates of congenital anomalies in wild rabbits, it is felt that resorption rates are one additional measure of embryonic abnormality, and rabbit populations with resorption rates that differ significantly from the anticipated 5% level will be suspect. This information will add further evidence of the possible significance of unusual environmental factors. The cottontail is considered as an ideal study animal because of its low mobility and sensitivity to environmental change. Furthermore, the baseline information is now available on the reproductive physiology of this species. This information will add another parameter of ecologic data that will help to quantitate the significance of differences in regions of the state where human health problems are under study.

In order to achieve the goal of identifying significant environmental factors, a study of such magnitude will require the continued cooperation of all Missouri physicians and veterinarians. The embryo has been selected as the most sensitive indicator of environmental hazards. The exact nature of each abnormality is of great importance in identifying the specific time during this gestation period during which the fetus might have been affected. Accuracy and completeness of the recording of these birth anomalies is, therefore, most essential. In addition, every case of malformation must be accurately located geographically, in order to determine possible causal relationships. Only after such factors are determined can there be a logical approach to the prevention and control of congenital malformations.

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Parke, Davis & Company has announced the introduction of a vitamin-mineral dietary supplement designed for use during pregnancy and lactation. The inclusion of a supplementary quantity of folic acid in the new product, Natabec-F.A., reportedly will provide pregnant women with 0.1 mg of folic acid per day. This quantity is believed sufficient to prevent a deficiency of the acid, yet not great enough to mask the appearance of pernicious anemia. Ingredients of a Natabec Kapseal include calcium carbonate, ferrous sulfate, and vitamins B_{12} crystalline, A, D, B_1 mononitrate, B_2, nicotinamide, B_6, and C.

A. DENTON VAIL, M.D. ***and***
FREDERICK C. COLLER, M.D., ***Springfield***

The Parathyroid Glands: Clinicopathologic Correlation of Parathyroid Disease as Found in 200 Unselected Autopsies

Prior to 10 or 15 years ago, it was generally considered that pathology of the parathyroid glands was a relatively rare condition. This study was undertaken on the assumption that parathyroid glands, like other tissues and organs of the body, could reasonably be expected to exhibit various abnormalities and diseases, although perhaps with some differences in frequency. Since we know that disturbances of calcium metabolism may occur either primarily from pathology originating within the parathyroid gland or as a result of other conditions which exert their effects secondarily through alterations of calcium balance, we became interested in knowing the extent to which we might find pathologic changes in these tissues from a study of routine autopsies. We hoped this might give a clue as to both the nature and extent of changes which might be expected in the presence of certain diseases.

In view of the frequency of diseases known to affect parathyroid function, it was also hoped to be able to demonstrate significant changes in the parathyroids in a greater incidence than has generally been suspected. Since many of the early symptoms associated with disturbed parathyroid function are vague and indefinite, we hoped that a correlation of tissue pathology with pertinent data from the history, physical examination, laboratory studies and autopsy findings might serve to emphasize the importance of the early symptomatology of disturbed parathyroid function, thereby alerting the clinician to earlier suspicion of this problem.

In this study of 200 autopsies, 26 cases with significant parathyroid disease were found. The pathology shows that the parathyroids are subject to disease states with considerable frequency. The clinicopathologic correlation suggests a low index of suspicion. The authors suggest an increase in effort toward earlier detection of these problems. Doctors Vail and Coller are in the private practice of medicine in Springfield.

Although we were able to accomplish certain aspects of our goal, we were greatly disappointed because of the almost complete absence of significant data as revealed by a minute inspection of hospital and, in some cases, office records of the attending physician. The negative aspects of the study merely lend additional support to our assumption that parathyroid disease is still not suspected with sufficient frequency to make possible the earlier detection of larger numbers of these cases. We have not been able to find any previous studies of the parathyroids using this particular approach.

From 1925, when Mandl[1] first removed a parathyroid adenoma from a patient with generalized osteitis fibrosis cystica, until within only the last few years, it was assumed that diseases of the parathyroid gland were generally associated only with significant changes in serum calcium and phosphorus and roentgen evidence of bone disease. That these criteria are entirely inadequate today has been pointed out by Hyde and associates[2] and Randall and Keating,[3] who note that neither renal nor osseous disease are necessary concomitants of primary hyperparathyroidism. Further supporting this is the report of Ramsdall and associates[4] which reveals the detection of 21 cases of parathyroid tumor between 1947 and 1958, discovered incidentally during surgical procedures for other reasons.

Little significance was attached to the many early premonitory symptoms which are now known to be frequently associated with parathyroid disease or those diseases which can affect parathyroid function. Among the former are nonspecific abdominal pain, vague gastro-intestinal symptoms, nausea, vomiting, dehydration, polyuria, hyposthenuria, weight loss, constipation, lethargy and psychosis.[5-12] In the latter are osteomalacia, uremia, electroshock, endocrine tumors (pituitary, pancreas and parathyroid), pancreatitis, duodenal ulcer and calculus, as well as non-calculous renal disease, metastatic malignancy (especially breast and in those cases in which androgens have been administered), certain cases of hyperthyroidism, severe vitamin D intoxication, multiple myeloma, milk-alkali syndrome, sarcoidosis, Addison's disease, skeletal immobilization and bone disease.(13-25, 4, 3, 26-29) While in the past significant alterations in blood calcium and phosphorus values were considered essential to the diagnosis, we now know that hyperparathyroidism may exist in the presence of normocalcemia and normophosphatemia.[30]

The literature of the past ten years contains an abundance of material covering the various types of parathyroid pathology from both surgical and autopsy material. Publications by Castleman,[31] Woolner and associates,[29] Janelli,[32] Hoffman[33] and Cope[34] are particularly comprehensive and outstanding.

Material and Methods

Parathyroid glands for this study were obtained from 200 unselected autopsies. Each gland was confirmed microscopically. Specimens were obtained by block excision of all structures in the neck in an area bounded superiorly by the top of the thyroid cartilage, laterally on each side to the margin of, or at times, including the carotid arteries and inferiorly to the maximum distance permitted without disturbing the sternum. It will be apparent that, by this method, a few parathyroid glands will be missed by virtue of their location beyond the surgical field. That this error has not been too great is attested to by our having recovered 3.8 glands per autopsy specimen. Following removal of the specimen, the tissue was fixed in formalin and, after dissection, prepared by the usual hematoxylin-eosin stains. From these 200 specimens, we have found 26 cases which show significant demonstrable pathology in one or more glands. We recognize that normal parathyroid tissue may occasionally contain tiny foci of hyperplasia of Wasserhelle cells which are so small as to have no conceivable effect upon gland function. Three cases of leukemia showed leukemic infiltration which we do not consider as being associated with disturbed function of the glands. Two cases showed extensive hypervascularity for which no satisfactory explanation was found. While some of these cases are presented for the sake of completeness, none is included in the 26 cases which we consider as showing sufficient pathology to alter function.

Results

Twenty-six cases (13%) are found to have pathologic changes in one or more glands (Table 1). Distribution by sex reveals no significant difference. By age, 73% are found between 50 and 80 years. In 16, one or more glands are enlarged. The combined weight of parathyroid glands in the pathologic cases varies from 174 mgm to 1750 mgm with an average of 446 mgm

TABLE 1

Incidence and Distribution by Sex and Age

Total number of autopsies: 200	
Males	63.0%
Females	37.0%
Glands recovered per autopsy	3.78
Average age	
Males	58.7 years
Females	55.2 years
Age distribution entire series	
0-19 years	2.9%
20-29 years	3.8%
30-39 years	9.7%
40-49 years	11.9%
50-59 years	14.2%
60-69 years	32.9%
70-79 years	19.3%
80-89 years	5.2%
90-99 years	.1%
Number of cases showing significant pathology:	
26	13.0%
Males	15
Females	11
Ages	
0-10 years	1
30-39 years	3
40-49 years	2
50-59 years	4
60-69 years	9
70-79 years	6
80-89 years	1
Cases showing enlargement one or more glands	16
Total parathyroid weights: Abnormal cases, 174-1750 mgm.; average 466 mgm. per case	
Total parathyroid weights: Normals, average 146 mgm. per case	

TABLE 2

Symptoms

Epigastric pain	7
Vomiting	5
Weakness	4
Anorexia	3
Lower abdominal pain	3
Chest pain	3
Diarrhea	3
Constipation	2
Nausea	2
Prostatic obstruction	2
Shortness of breath	2
Abdominal cramps	1
Rectal bleeding	1
Mental confusion	1
Malig. cachexia	1
Excessive eating	1
Polyuria	1
Apprehension	1

per case. Total weight of parathyroid tissue in the cases showing no abnormality averages 146 mgm per case. Symptoms (Table 2) reveal epigastric pain to be the most frequent, followed by vomiting, weakness, anorexia, lower abdominal pain, chest pain and diarrhea. The one case of excessive hunger is interesting because the patient gave a history of eating six to ten full meals daily and still being ravenously hungry. This patient was not diabetic or hyperthyroid, and a Wasserhelle adenoma was present in one gland.

Laboratory findings (Table 3) consist usually of routine admission studies including RBC, hemoglobin, WBC, differential, serology and urinalysis. In many of these, the admission studies constitute all the laboratory work done. In some cases, portions of these studies were repeated. Only one case was found in which blood calcium, phosphorus, alkaline phosphatase and acid phosphatase studies were requested by the physician (Table 3). In this case, an oxyphil adenoma was present in one gland. While four cases have diabetes and four cases anemia, the large percentage have primarily some degree of renal disease. Pyuria is most common, albuminuria is second, while elevations of NPN are present in seven with hematuria in three.

Acinar hyperplasia, in nine cases, is the most common type of pathology found (Table 4). Of the adenomas, oxyphil types are first with four cases and two are acinar. Three cases show large areas of Wasserhelle cells, conceivably capable of function. Two cases have unusually large amounts of oxyphil tissue which we have estimated as 60% and 80%. The largest glands, as expected, are in the one case of diffuse hyperplasia. Second in size are those with chief cell hyperplasia and adenoma. Next are acinar adenomas, acinar hyperplasia and oxyphil adenoma. Cause of death (Table 5) is highest from vascular disease, followed by malignancy and kidney disease. Associated conditions (Table 6) found at autopsy and considered as contributory, are in good agreement with the literature as commonly present in parathyroid disease. Cardiovascular and urinary disease constitute the largest groups with diabetes and cholecystic disease with stone being high on the list.

TABLE 3

Laboratory Findings

Albuminuria		11
Pyuria		12
High NPN		7
Anemia		4
Glycosuria		3
Sugar and acetone in urine		1
Hematuria		3
Alkalosis		1
Acidosis		1
Casts		1
Done in one case only:		
Calcium	10.6 mgm. %	N:9-11
Phosphorus	4.64 mgm. %	N:2-4
Alk. phosphatase	9.22 Bodansky units	N:1.5-4.0
Acid phosphatase	1.76 King-Armstrong units	N:1.0-3.0

TABLE 4

Types of Pathology

Adenomas	
Oxyphil	4
Acinar	2
Wasserhelle	1
Chief cell	1
Hyperplasia	
Acinar	9
Papillary	2
Chief cell	4
Wasserhelle	1
Metastatic carcinoma	1
Infarct	1
	26
Increased oxyphil cells	2
Hypervascularity	2
Cysts	3
Calcific bodies	2
Leukemic infiltration	2

TABLE 5

Causes of Death

Coronary artery arteriosclerosis	5
Massive pulmonary embolus	2
Peritonitis	2
Chronic pyelonephritis	2
Carcinoma duodenum	1
Acute lymphatic leukemia	1
Mesenteric thrombosis	1
Pneumonia	1
Cerebral hemorrhage	1
Aplastic anemia	1
Carcinoid duodenum	1
Acute monoblastic leukemia	1
Carcinoma prostate	1
Congenital polycystic kidneys	1
Metastatic melanoma	1
Papillary carcinoma thyroid	1
Kimmelstiel-Wilson's disease	1
Cerebral thrombosis	1
Amniotic fluid embolus	1

TABLE 6

Associated Conditions

Cardiovascular	
Coronary artery arteriosclerosis	11
Hypertension	10
Rheumatic heart disease	3
Abdominal aneurysm	1
Genitourinary	
Chronic pyelonephritis	8
Hydronephrosis	4
Carcinoma prostate	3
Renal calculi	3
Calcium deposits kidney	2
Diabetes	6
Cholecystic disease with stones	5
Fatty metamorphosis of liver	4
Diffuse pancreatic necrosis	2
Chronic pancreatitis	2
Duodenal ulcer	2
Diverticulitis of colon	1
Femoral artery thrombosis	1
Chromophobe adenoma pituitary	1
Carcinoma breast	1
Goiter	1
Acromegaly	1
Acute leukemia (following I-131 therapy)	1

Pathology

Chief cell adenoma. (Fig. 1)* This adenoma weighed 475 mgm and the total weight of the four glands was 609 mgm. Many of the cells are seen to contain hyperchromatic and pleomorphic nuclei, occasional giant nuclei and finely granular cytoplasm.

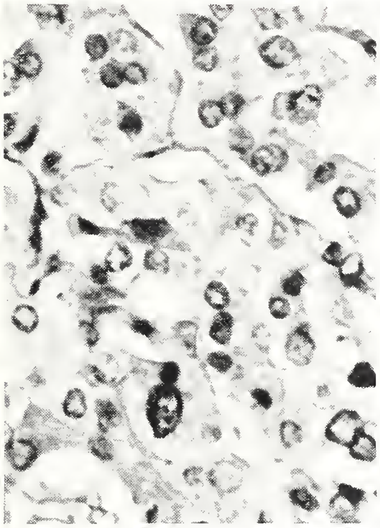

Fig. 1 Chief cell adenoma.

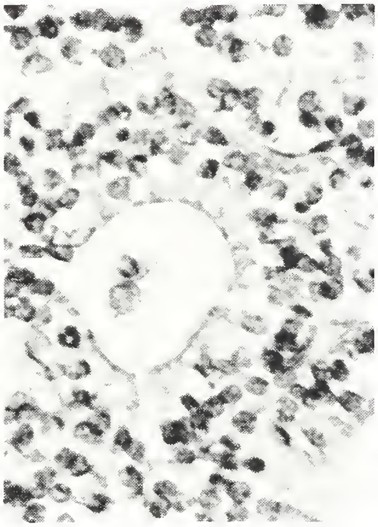

Fig. 2 Acinar adenoma. Uniform architecture.

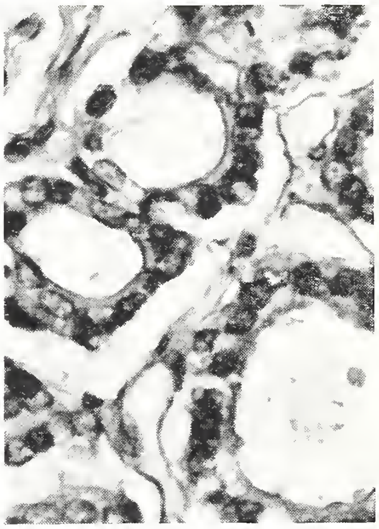

Fig. 3 Acinar adenoma. Larger and more irregular acini.

Acinar adenoma. (Fig. 2) Gland lumens are small and lined by tall columnar cells with nuclei showing slight loss of polarity and vacuolated cytoplasm. Fig. 3 shows a more intense acinar formation with the glands lined by cuboidal epithelium with granular cytoplasm. Chronic pancreatitis and carcinoid of the duodenum were found.

Wasserhelle adenoma. (Fig. 4) This adenoma has a thin, fibrous capsule and is composed of groups of large clear cells separated by thin

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* All photomicrographs at magnification of 600 ×. All sections with H & E stain.

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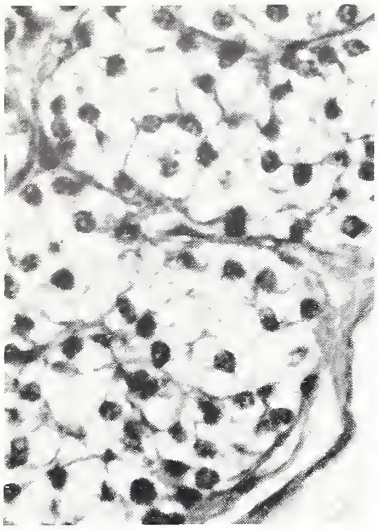

Fig. 4 Wasserhelle adenoma.

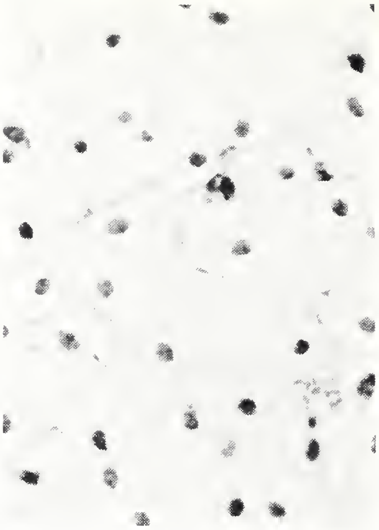

Fig. 5 Oxyphil adenoma. Typical.

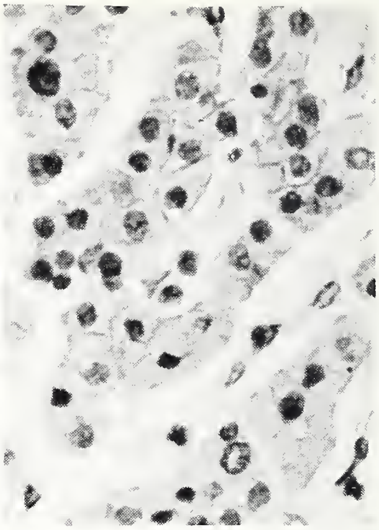

Fig. 6 Oxyphil adenoma having architectural appearance of liver cells.

fibrous septae. The nuclei are small, dark and uniform and the cytoplasm water clear. The four glands weighed 287 mgm. Cause of death was mesenteric thrombosis.

Oxyphil adenoma. (Fig. 5) This is the most common type with extremely large cells compactly arranged and with small, uniform nuclei. The cytoplasm is pale, eosinophilic and finely granular. It is of interest that the only case in which blood calcium, phosphorus, alkaline phosphatase and acid phosphatase were obtained was one containing an oxyphil adenoma and the patient had diffuse pancreatic necrosis, carcinoma of the prostate and bilateral hydronephrosis. Fig. 6 shows an interesting and unusual type of architecture which was present in two of the cases. The cells are arranged in cord formation, simulating liver cells with sinusoid-like vascular spaces separating them. The cells are about one half the size of the usual oxyphil cell, have larger and deeper staining nuclei and, in general, are more centrally located. The cyto-

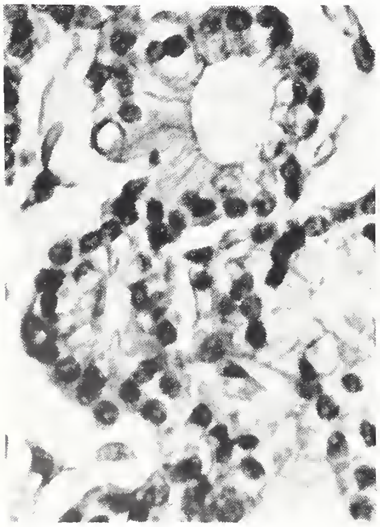

Fig. 7 Acinar hyperplasia.

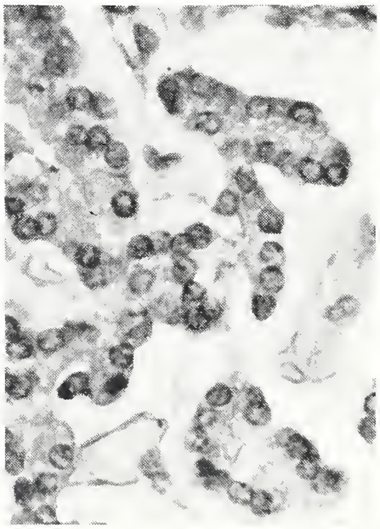

Fig. 8 Mixed acinar and papillary-like hyperplasia. Showing one of the many large papillary-like areas.

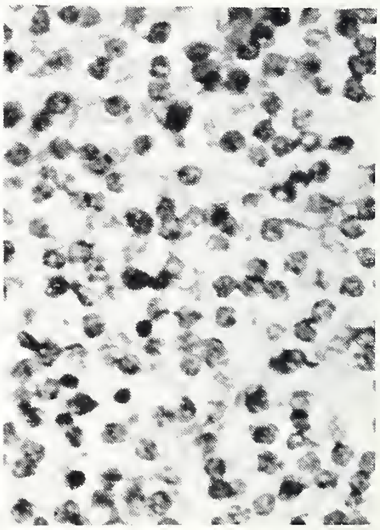

Fig. 9 Chief cell hyperplasia. Total weight 4 glands 1750 mgm.

plasm contains heavier granules, is less abundant and takes a deeper eosinophilic stain. The combined weight of the four glands was 325 mgm and a chronic duodenal ulcer was present. PAS stains revealed no histological difference between this and the usual types.

Hyperplasia. (Fig. 7) This category presents the widest variation in type and structure. Some cases show a single type of architecture while many are a mixture of two or more types of cellular growth within the same case or within the same gland. This case shows extensive hyperplasia of all four glands which had a combined weight of 844 mgm. There were large areas in each gland of both acinar hyperplasia and papillary-like hyperplasia (Fig. 8). This case had multiple glandular tumors, the patient being acromegalic with a chromophobe adenoma of the pituitary, diabetic and having a duodenal ulcer, the rupture of which resulted fatally.

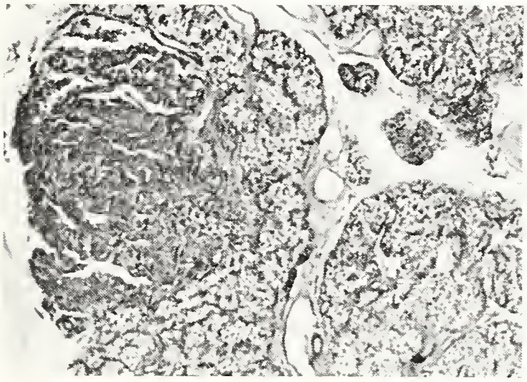

Fig. 10 Malignant melanoma metastasized to a parathyroid. (Discrete mass—left.)

Chief cell hyperplasia. (Fig. 9) This case had the largest parathyroids of the entire series with 1750 mgm total weight of the four glands. The glands are composed primarily of diffuse, small chief cells. One case showed a diffuse, cystic pattern, previously described by Woolner.[29] Cause of death was congenital polycystic disease of the kidney.

Malignant melanoma metastasized to the parathyroid. (Fig. 10) This is our only case of malignancy. Two of the four glands were involved (Discrete mass-left). All uninvolved tissue of all glands shows Wasserhelle type hyperplasia. Review of the literature since 1908 revealed only 11 cases of malignant metastasis to the parathyroid glands[35] and to that date (1961) there had been no previous report of metastatic melanoma.

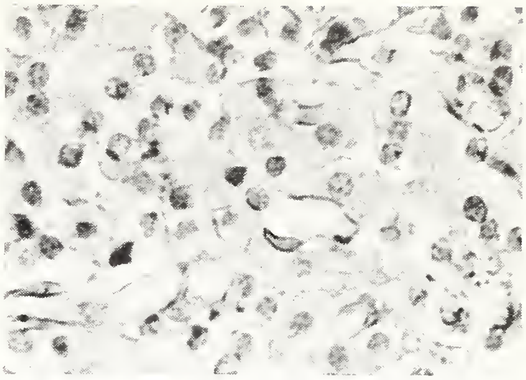

Fig. 11 Massive replacement (80%) of chief cells by oxyphil cells.

Massive replacement with oxyphil cells. (Fig. 11) Here one sees the extensive transition of chief cells into oxyphil types which are of the typical variety. We estimate an 80% replacement in this case. One other case was found with an estimated 60% replacement. These two cases are of interest since they raise the question of function, if any, of oxyphil tissue. In the past, there has been voiced the opinion that oxyphil cells are merely chief cells which have become decadent, senile and lost their function. It is, therefore, difficult to conceive of an individual, whose parathyroids are composed of 60% to 80% nonfunctioning cells, without clinical evidence of hypoparathyroidism. This is further substantiated by reports of cure of hyperparathyroidism with removal of oxyphil adenoma.[30, 36]

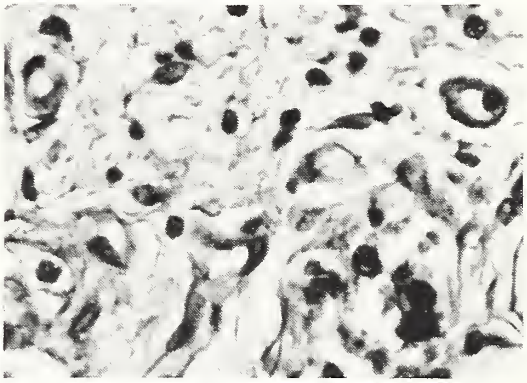

Fig. 12 Healing infarct.

Infarction. (Fig. 12) This patient had arteriosclerosis. Here one sees a large area in disorderly arrangement with fibrous replacement, regenerating capillaries and arterioles and regenerating chief cell nuclei with enlargement. There has been considerable replacement by loose fibrous tissue. We have been able to find only four previously reported cases of infarction of the parathyroid.[37-40]

Hypervascularity. Because of space limitations, we were unable to show the last two cases which are mentioned for completeness. We found in our series two cases showing extreme vascularity of the parathyroids without any clues from the histories or autopsy findings as to cause. Each gland showed such marked increase in blood vessels with congestion of red cells as to cause one to consider, at first glance, a possible hemangioma.

Cysts. This is mentioned simply for sake of completeness. Small simple cysts were frequently encountered. While many were of microscopic size, many were also several millimeters in diameter and easily noted on gross inspection. They have no significance that we have been able to determine.

DISCUSSION

We believe the important aspect of this report is the demonstration of significant parathyroid disease in 13% of 200 routine autopsies. Since 38% of these are below age 60, it is perhaps not too presumptive to assume that a significant number could have been expected to present a picture of more advanced parathyroid disease had they been able to live out their normal expectancies. Although most of the symptoms presented are those commonly reported in the literature, there was little suspicion by the attending physician that parathyroid disease might be a factor. Calcium and phosphorus determinations were done in only one case in the entire group. We believe these findings illustrate that the parathyroid gland is capable of and does develop diseased states in a much higher incidence than is generally suspected. Since the penalty for failure to diagnose and correct these problems early is a fatal outcome for the patient, we should increase our efforts toward the earlier detection of these problems.

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Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
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Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

On Thursday, April 6, the Missouri State Medical Association will convene for its 109th Annual Session. During the four day meeting the Association's House of Delegates, made up of representatives from all component local medical societies, will shape the policies and programs which will guide the organization's Officers and Council during the ensuing year. In a time of rapid and dramatic change this will be a complex and difficult task. We hope that official Delegates will come to the meeting fully informed on the issues to be discussed and fully aware of the attitudes and desires of their colleagues at the local level. We hope that reason, logic and practicality will guide their debates and decisions.

Dr. "Jack" Matthews and his Scientific and Postgraduate Work Committee have arranged another excellent scientific program. Physicians attending the meeting will find two or three topics to choose from for every time segment in the scientific schedule. In addition, a full slate of medical and surgical films will be running concurrently with the "live" presentations. The Committee truly has tried to provide a spectrum of subject matters which will offer something of interest to any physician.

The Scientific Committee is trying an innovation this year as to the timing of the convention. The 1967 Session will begin on a Thursday afternoon and will continue through Sunday morning. In the past the meetings have started on Sunday afternoon and have run through Wednesday morning. It is thought that more physicians will be able to absent themselves from their offices during the last part of the week than during the first part.

A number of specialty organizations and medical schools have assisted in arranging the program this year. Some of them will be holding their annual meetings in conjunction with the Association's meeting, so, many physicians will be able to "kill two birds" with one trip.

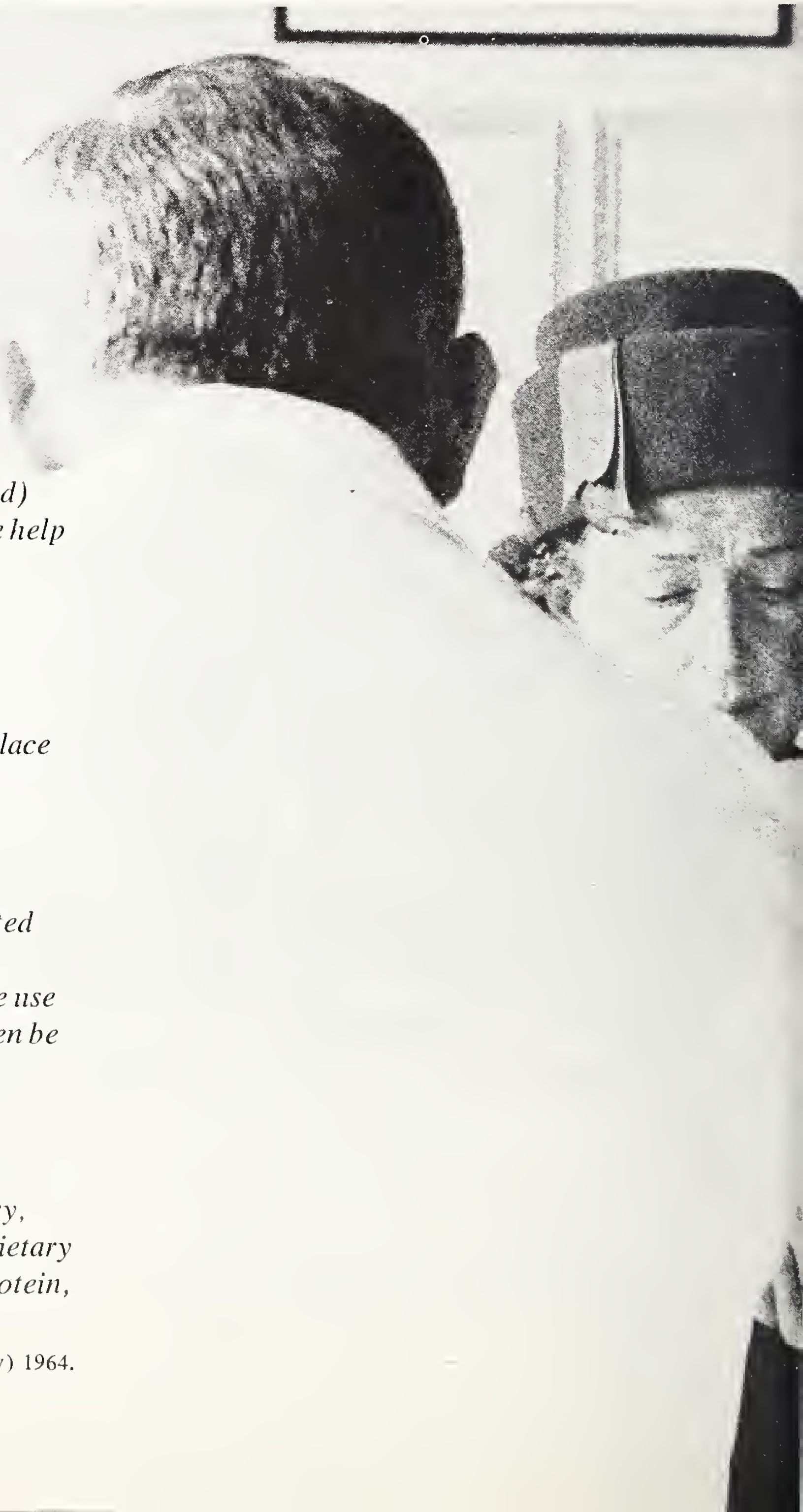
We hope that every member of MSMA will give serious consideration to attending the Annual Session, participating in the affairs of organized medicine, benefiting from the scientific presentations and enjoying the camaraderie of old friends and colleagues.

See you in St. Louis on April 6!

Byron M. Stuart, M.D.

The Mediatric Age:

There is a growing senescent body of people on their way to malignant inactivity, who sorely need your interest and direction to help them back to a more active and useful life. There are medicines too, designed to help. One such has proved useful in clinical practice.



"A steroid-nutritional compound (Mediatric) was used in 100 patients to relieve some of the symptoms caused by degenerative changes of aging . . . This therapy resulted in improvement of 75 per cent of the patients . . ."

McNeill, A. J.: Clin. Med. *8*:518 (Mar.) 1961.

"Mediatric (steroid-nutritional compound) capsules, one a day, seem to give definite help to debilitated patients."

Arnold, E. T., Jr.: Geriatrics *12*:612 (Oct.) 1957.

"Nutritional and hormone bolstering of function in the aged may have a useful place in geriatrics."

Morgan, A. F.: Gerontologist *2*:77 (June) 1962.

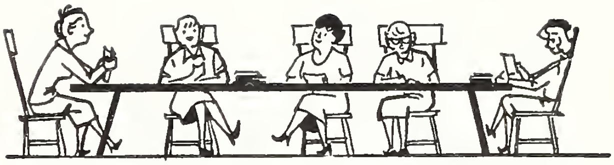
"In diets which for any reason are restricted in calories, enough of these substances (B vitamins) may not be supplied . . . The use of B and C vitamin supplements may then be justified and indeed may be necessary."

Morgan, A. F.: Gerontologist *2*:77 (June) 1962.

"Intensive nutritional therapy is necessary, especially in elderly people, to correct dietary deficiencies created by large losses of protein, vitamins and other nutrients."

Riccitelli, M. L.: J. Am. Geriatrics Soc. *12*:489 (May) 1964.

Woman's Auxiliary



During the past year, I have had the privilege of writing monthly articles for Missouri Medicine. This courtesy extended by the State Association to its Auxiliary president is a significant honor. To Allen D. Smith, Managing Editor of the journal, I pay tribute for his guidance and cooperative spirit.

Mrs. Wallace R. Stacey

Throughout the year my articles have been slanted toward this year's theme, "KNOW YOUR AUXILIARY." It has been my intent to acquaint the reader with the service work of the Auxiliary. We have a program of which we are proud. Membership and active participation will come to us if the work of Auxiliary is well understood. Giving us space in Missouri Medicine helps us spread the word. Thank you most sincerely.

The incoming president, Mrs. John M. Williams, has an excellent understanding of the broad scope of Auxiliary. Her way with words will delight the reader.

To the Woman's Auxiliary and to the Missouri State Medical Association—my grateful thanks for a mountain-top experience!

FINANCIAL STATEMENT FOR THE YEAR 1966

LENNERTSON & COMPANY

CERTIFIED PUBLIC ACCOUNTANTS
214 SOUTH BEMISTON AVENUE

ST. LOUIS, MISSOURI, 63105

January 27, 1967

Missouri State Medical Association,
515 East High Street,
Jefferson City, Mo. 65101.

Gentlemen:

The accounts of the Missouri State Medical Association, a non-profit Missouri corporation, have been reviewed for the year 1966 and a report thereon is presented together with the following exhibits:

Exhibit A	Balance Sheet
Exhibit B	Income Statement
Exhibit C-1	Statement of Committee and Meeting Expenses
Exhibit C-2	Statement of Investments
Exhibit D	Dues Receivable and Membership by Societies

It should be noted that members' dues and investment income are taken into income on the cash receipt basis whereas the other accounts are maintained on the accrual basis. Rentals received in advance for Annual Session exhibit space are shown as prepaid and carried forward to the year to which they apply.

Scope of Examination

The Balance Sheet at December 31, 1966 and the Income Statement for the year then ended were reviewed. Examinations or tests were made of the accounting records, in the manner and to the extent deemed appropriate, without making a detailed audit of the transactions.

Recorded cash receipts for the year were traced in total into the bank as deposits and disbursements for the period were substantiated by an inspection of paid checks, purchase invoices and other data on file.

Income Statement

The financial result of activities of the Association for the year 1966 was an excess of expenses over income of $6,600.31 as set forth in Exhibit B. Exhibit C-1 presents a summary of committee and meeting expenses for the year.

Selective tests were made of the income and expense accounts for the period. It was noted that space in THE JOURNAL was contributed to the United States Treasury Department for bond advertising, to members for small classified ads, to the Missouri State Medical Foundation and to the Pharmaceutical Manufacturing Association.

Balance Sheet

The financial position of the Association at December 31, 1966 is presented in Exhibit A. Comments on the larger Balance Sheet accounts follow:

Cash in banks, as shown by the books, was reconciled to the regular monthly bank statements and confirmations received from the depositaries. The petty cash fund was verified by physical count.

Investments with a cost of $112,584.46 were confirmed by a statement from the custodian, Mercantile Trust Company. Investment income for the year consists of the following:

Interest and Discount on Bonds	$2,751.59
Dividends on Stock	1,174.52
Total Investment Income	$3,926.11

Accounts Receivable of $6,975.29 represent the unpaid balance due from JOURNAL advertisers. Of this amount $6,916.29 was due from the State Journal Advertising Bureau as follows:

December 1966	$2,618.88
November 1966	3,895.19
Prior to November 1966	402.22
Total	$6,916.29

On January 13, 1967, a check was received paying $3,877.66 of the November and prior accounts.

Unpaid dues of $2,062.50, offset by a reserve account in like amount, represent 1966 dues of delinquent members carried at the requests of local societies. Other delinquent members were dropped from membership in accordance with the by-laws. Exhibit D presents a summary of unpaid dues and membership by societies, as shown by the records of the Association.

Furniture and fixtures continued to be stated in the fixed amount of $1,000. Equipment purchases, rentals and repairs for the year in the sum of $1,100.67 were charged to expense in lieu of depreciation.

The records were carefully reviewed for liabilities at December 31, 1966 and it is believed that all current liabilities of substantial amount are included in the Balance Sheet. The by-laws require the Association to furnish financial assistance up to $300, on each malpractice suit. The Association reports one suit in litigation at year-end.

Exhibitors have made advance payments of $4,715 for annual session exhibit space and these payments will be taken into income when earned in 1967.

The excess of assets over liabilities in the amount of $116,422.73 is shown in the Balance Sheet as a "Reserve for Future Activities."

General

During Seputember 1966, the office of the Missouri State Medical Association was moved to Jefferson City, Mo. The Association has leased offices at 515 East High Street for two years to September 1, 1968. Cost of moving the office and employees amounted to $5,993.99.

The Internal Revenue Service proposed to tax the Association on income derived from the exhibits at the Annual Sessions for the years ended December 31, 1958 through December 31, 1964. Negotiations resulted in a conference report stating that the exhibit rentals did not result in taxable income to the Association.

During the year, payments were made to or for the following sponsored organizations:

Missouri State Medical Association Pension Trust	
Employees' Retirement Insurance Premiums	$ 5,345.38
Employees' Pension Plan Contribution	6,858.00
Total	$12,203.38

Missouri State Medical Foundation	
Insurance, Audit and Printing	$ 2,941.14

Other collections with the annual dues include amounts for American Medical Association and the Missouri State Medical Foundation. Following is a schedule of dues and assessments for each member:

	Active	*Junior*
JOURNAL	$ 3.00	$ 3.00
Association General Fund	39.50	18.25
Foundation Assessment	7.50	3.75
Missouri State Medical Association Dues and Assessments	$50.00	$25.00
American Medical Association	45.00	45.00
Total	$95.00	$70.00

Except for $35.61, the 1966 collections of $26,013.38 for the Missouri State Medical Foundation have been remitted along with $979.09 due from the year 1965. The $45 per member collected for the A.M.A. totaling $153,135 has been remitted except for $45.

Insurance policies were inspected and the following general insurance was in force at the close of the year:

Insurance on	*Type of Coverage*	*Amount*
Furniture and Fixtures	Fire and Extended Coverage (80% co-ins.)	$ 6,500
Employees	Workmen's Compensation	Statutory
Lessee's Liability	Bodily Injury	$25,000/ 50,000
Treasurer	Fidelity Bond	$ 20,000
All Other Employees	Fidelity Bond	$ 5,000
Automobiles of Executive Secretary and Two Assistants	Non-ownership—Bodily Injury	$50,000/100,000
	Non-ownership—Property Damage	$ 5,000
Members and Auxiliary Members on M.S.M.A. Business	Travel Accident (away from home)	$25,000/250,000

Subject to the comments thereon, the attached statements, in our opinion present fairly the financial position of the Missouri State Medical Association at December 31, 1966 and the result of the activities for the year then ended. The records were kept in a good accounting manner in accordance with accepted principles of accounting applied on a basis consistent with that of the preceding year.

Yours very truly,
LENNERTSON & COMPANY,
Certified Public Accounts

EXHIBIT A

Missouri State Medical Association
Balance Sheet, December 31, 1966

Cash	*Assets*	
Mercantile Trust Company (Treasurer's Account)	$ 5,839.97	
Central Missouri Trust Co. (Secretary's Account)	406.81	
Petty Cash Fund	25.00	$ 6,271.78

Investments at Cost		
U. S. Government Bonds	$ 80,513.26	
Corporate Bonds	5,000.00	
Common Stocks	27,071.20	
Total (Market Value $112,261.13)		112,584.46
Accounts Receivable		
Advertisers	$ 6,975.29	
Mercantile Trust Company—Investment Custodian	1,128.13	8,103.42
Dues Receivable—Exhibit D (See Reserve—contra)		2,062.50
Furniture and Fixtures (at stated value)		1,000.00
Advances for Travel Expenses		337.86
		$130,360.20

Accounts Payable *Liabilities*		
Supplies and Expenses	$ 5,349.74	
Payroll Taxes	1,729.44	
Due Missouri State Medical Foundation	35.61	
Due American Medical Association	45.00	$ 7,159.79
Deferred Credit to Income		
Advance Payments by Exhibitors		4,715.00
Reserve for Uncollected Dues		2,062.50
Contingent Liability—One malpractice suit pending—$300		
Reserve for Future Activities		
Balance January 1, 1966	$123,023.04	
Excess of Expenses over Income for the year 1966, Exhibit B.	(6,600.31)	116,422.73
		$130,360.02

EXHIBIT B

Missouri State Medical Association
Income Statement for the Year 1966

Income Particulars	*General Activities*	*Journal Publication*	*Total*
Dues Received (including $3.00 per member annually for THE JOURNAL)	$136,750.62	$ 11,106.00	$147,856.62
Rentals—Annual Session Exhibit Space	9,800.00		9,800.00
Subscription to THE JOURNAL—Nonmembers		229.50	229.50
Advertising Space—THE JOURNAL		42,450.17	42,450.17
Investments—Interest and Dividends	3,926.11		3,926.11
Collection Fees on A.M.A. Dues	1,536.75		1,536.75
Total Income	$152,013.48	$ 53,785.67	$205,799.15
Expenses			
Salaries	$ 51,278.34	$ 25,639.16	$ 76,917.50
THE JOURNAL—Paper, Printing, etc.		32,338.84	32,338.84
Cash Discounts to Advertisers		188.85	188.85
Commission on JOURNAL Advertising		6,944.33	6,944.33
Postage	1,735.72	850.93	2,586.65
Committee and Meeting Expense (Exhibit C-1)	42,846.07		42,846.07
Custodian Fees—Investments	252.22		252.22
Dues, Directories and Clipping Service	805.78		805.78
Employees' Pension Plan Contributions	$ 12,203.38		12,203.38
Equipment Purchases, Rentals and Repairs in Lieu of Depreciation	1,100.67		1,100.67
General Expense	86.23		86.23
Income Tax Examination	1,753.64		1,753.64
Insurance—Blue Cross	734.15		734.15
Insurance—General	403.50		403.50
Missouri State Medical Foundation	2,941.14		2,941.14
Moving Expenses	5,993.99		5,993.99
Office Rent and Light	5,011.23		5,011.23
Professional Fees	4,263.45		4,263.45
Stationery, Printing and Office Supplies	5,814.25		5,814.25
Student Awards	225.00		225.00
Taxes—Payroll and Personal Property	2,108.64		2,108.64
Telephone and Telegraph	3,360.33		3,360.33
Traveling Expenses—Executive Secretary	1,817.10		1,817.10
Traveling Expenses—Executive Assistants	1,071.13		1,071.13
Traveling Expenses—Administrative Assistant	631.39		631.39
Total Expenses	$146,437.35	$ 65,962.11	$212,399.46
Excess of Income or (Expenses)	$ 5,576.13	$(12,176.44)	$ (6,600.31

EXHIBIT C-1

Missouri State Medical Association
Statement of Committee and Meeting Expenses for the Year 1966

Annual Session		$16,369.51
Council Meetings and Councilers' Expenses		7,001.69
Delegates to A.M.A.		5,750.83
Public Service		10,238.45
Woman's Auxiliary		2,185.44
Committees:		
Alcoholism	$ 18.68	
Civil Defense	14.89	
Eye Health	37.25	
Infant and Child Care	184.53	
Legislation	163.35	
Maternal Welfare	16.57	
Medical Economics	36.11	
Mental Health	156.19	
Nursing and Paramedical Personnel	149.60	
Rural Health	86.50	
Scientific and Post-graduate Work	106.99	
Tuberculosis	45.41	
Utilization	179.08	
Venereal Disease Control	105.00	1,300.15
Total		$42,846.07

EXHIBIT C-2

Missouri State Medical Association
Statement of Investments December 31, 1966

Investments	*Bonds at Par*	*Cost*
U. S. Treasury 2½% Bond 6/15/67-62	$10,000.00	$ 10,000.00
U. S. Treasury 2½% Bond 12/15/68-63	10,000.00	10,000.00
U. S. Treasury 2½% Bond 6/15/69-64	10,000.00	10,000.00
U. S. Treasury 2½% Bond 3/15/70-65	10,000.00	10,000.00
U. S. Treasury 2½% Bond 3/15/71-66	5,500.00	5,500.00
U. S. Treasury 3⅞% Bond 5/15/68	10,000.00	10,000.00
U. S. Treasury 4 % Bond 10/ 1/69	25,000.00	25,013.26
Pacific Gas & Electric 4½% Bonds 6/1/90	5,000.00	5,000.00
Central & Southwest Corp. 200 shares stock		6,345.62
Johns Manville Corp. 100 shares stock		5,582.34
Morgan Guarantee Trust Co. of N. Y. 61 shares stock		5,161.93
Standard Oil of California 105 shares stock		5,045.94
Union Carbide Corp. 74 shares stock		4,935.37
Total		$112,584.46

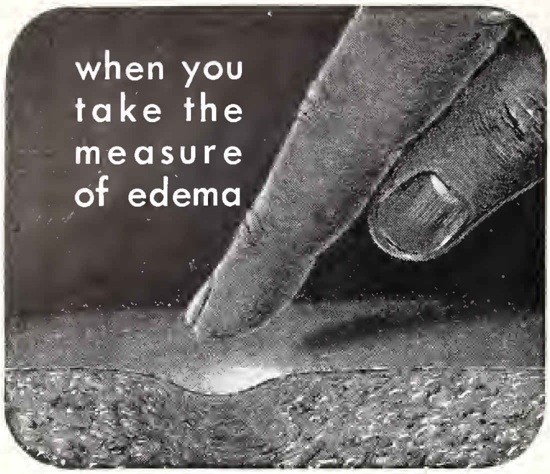
EXHIBIT D

Missouri State Medical Association
Dues Receivable and Membership by Societies December 31, 1966

MEMBERSHIP

Societies	*Junior*	*Active*	*Honor*	*Total*	*Unpaid Dues*
Andrew		2	1	3	
Audrain	2	17	1	20	
Barton-Dale		7		7	
Benton			1	1	
Boone	24	127	2	153	
Buchanan	5	72	13	90	$ 50.00
Butler-Ripley-Wayne	3	33		36	
Callaway	1	15	1	17	
Cape Girardeau	2	50	5	57	
Carter-Shannon		1		1	
Chariton-Macon-Monroe-Randolph		20	3	23	
Clay	10	54	1	65	
Clinton	1	4		5	
Cole	2	43	4	49	
Cooper	1	10		11	
Dallas-Hickory-Polk		7	2	9	
Dunkin		15	3	18	
Franklin-Gasconade-Warren	2	27		29	
Grand River	3	38	4	43	
Greene	12	152	9	173	50.00
Henry		10	2	12	

(Continued on page 251)



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AQUATAG (Benzthiazide) is a potent, orally active, nonmercurial, diuretic agent. It is effective orally in producing diuresis in edema states, where it is therapeutically comparable to mercurials given parenterally. AQUATAG (Benzthiazide) is mildly antihypertensive in its own right and enhances the action of other antihypertensive drugs when used in combination.

DIURETIC ACTION: Clinically, the oral administration of AQUATAG (benzthiazide) results in diuretic activity within two hours with maximal natriuretic, chloruretic, and diuretic effects occurring during the fourth, fifth and sixth hours. Maintenance of response continues for approximately 12 to 18 hours. Acidosis is an unlikely complication since therapeutic doses of AQUATAG (benzthiazide) do not appreciably increase bicarbonate excretion. Edematous patients receiving 50 mg. of AQUATAG (benzthiazide) daily for five days developed a maximal increase in the rate of sodium excretion on the first day, and maintained this high rate until depletion of excessive body stores of sodium.

In congestive heart-failure patients, AQUATAG (benzthiazide) produced the same weight loss, during a 48-hour treatment period as did a maximally effective dose of hydrochlorothiazide.

DOSAGE: Diuresis, initially 50 to 200 mg.; maintenance 25 to 150 mg., daily. Hypertension 50 to 100 mg. initially, adjusted to 50 mg. t.i.d. or downward to minimal effective dosage level.

WARNINGS: Use with caution in the presence of renal disease as azotemia may be precipitated or increased. In patients with advanced hepatic disease, electrolyte imbalance may result in hepatic coma. Dosage of coadministered antihypertensive agents should be reduced by at least 50%. In cases of suspected electrolyte imbalance, serum electrolyte determinations should be performed and imbalance, if any, corrected. Stenosis or ulcer of small intestine have been reported with coated potassium formulas, and surgery has been required and deaths have occurred. Based on surveys of both United States and foreign physicians, incidence of these lesions is low and a causal relationship in man has not been definitely established. Until further experience has been obtained, the use of the drug in pregnant patients should be weighed against possible hazards to the fetus.

CONTRAINDICATIONS: AQUATAG (benzthiazide) is contraindicated in progressive renal disease or dysfunction including increasing oliguria and azotemia. Continued administration of this drug is contraindicated in patients who show no response to its diuretic or antihypertensive properties. Severe hepatic disease is a relative contraindication. (See "Warnings" above.)

PRECAUTIONS AND SIDE EFFECTS: Electrolyte imbalance with hypokalemia (digitalis toxicity may be precipitated), hypochloremic alkalosis and hyponatremia may occur.

Patients with cirrhosis should be observed for impending hepatic coma and hypokalemia. Other reactions may include blood dyscrasias, hyperuricemia and gout, nausea, jaundice, anorexia, vomiting, diarrhea, dizziness, paresthesia, photosensitivity and headache. Hepatic fetor, tremor, confusion and drowsiness are signs of impending pre coma and coma in patients with cirrhosis. Insulin requirements may be altered in diabetes. AQUATAG (benzthiazide) should be used with caution post-operatively as hypokalemia is not uncommon. Potassium supplementation may be advisable pre- and post-operatively. There have been occasional reports of thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia and precipitation of acute pancreatitis or jaundice.

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WANTED—General Practitioner to join 8-man group. Salary for two years and then partnership. Wyeth Hamlin, M.D., The Hannibal Clinic, 711 Grand, Hannibal, Mo.

FOR SALE—200 Milli-Ampere G. E. X-ray machine with fluoroscope and developing tank. Also, excellent medical library. Write to Mrs. M. K. Underwood, P.O. Box 668, Rolla, Missouri.

Residential—Medical office building in growing Mid-Missouri city of 25,000—85 miles from metropolitan area with Medical Center, 70 miles from University Medical Center; 30 miles from good lake on major U. S. Highway. 140 bed J.C.A.H. hospital, B.H.I. (Medicare) certified. Triple "A" High School. Excellent opening for General Practitioner or internist. Ground level, nice lot. Adequate parking. Will sell building with or without equipment. Contact Box 333 c/o Missouri State Medical Association, 515 E. High St., Jefferson City, Mo. 65101.

FOR SALE OR LEASE—Six room office, two rooms of which are furnished bedrooms, can be used for treatment or examining room. Furniture, fixtures, equipment, case records and treatment included. Am 87 years old and want to retire and need replacement. Only M.D. in town. Wonderful opportunity for a middle-aged or young M.D. willing to work in a prosperous farming community. Territory is 12 to 20 miles in each direction. Contact D. E. Blacklock, M.D., King City, Missouri.

PEDIATRICIAN: Group of 21 specialists in need of a second pediatrician. Salary for 18 months, then full membership. No investment. Unique system combines advantages of private and group practice. Further information. Bradley D. Adams, M.D., 104 West Clark St., Champaign, Illinois.

PHYSICIANS WANTED—General Surgeon, Internist, Family Physician (Generalist) interested in satisfying practice with time for home life. Long established mixed Generalist and Specialist group in Greater Kansas City area. Rapidly growing community, excellent hospital facilities. Salary one year, then Partnership. Contact Box 334, c/o Missouri State Medical Association, 515 E. High St., Jefferson City, Mo. 65101.

WANTED—General Practitioner to associate in Group Practice. Modern office facilities and accredited hospital. Adequate guaranteed income to start and increases leading to full partnership. Contact Eugene B. Robichaux, M.D., Excelsior Springs, Mo.

INTERNIST for very active multi-specialty group. Medical school affiliation available. $20,000 to $25,000 with partnership option in two years. Prairie Clinic, 26th & "J," Omaha, Nebraska 68107.

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Indications: Recommended in the management of excessive appetite leading to obesity.

Cautions and Contraindications: No adverse effects on blood pressure, heart rate, and respiration have been reported. However, as is true for all medications of this type, PLEGINE (Phendimetrazine bitartrate) is not recommended for patients with coronary disease, severe hypertension, or thyrotoxicosis, and should be used with caution in highly nervous or agitated individuals.

Side Effects: There have been occasional reports of insomnia and nervousness. Rare instances of mouth dryness, nausea, blurring of vision, dizziness, constipation, and stomach pain have been noted.

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AMES

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New Members

Nina Dawson Beatty, M.D., General Hospital and Medical Center, Kansas City, has become a member of Jackson County Medical Society. Dr. Beatty is a native of London, England, received her preliminary education at the Edinburgh Medical School and her M.D. degree at Western Reserve School of Medicine in 1946. She specializes in anesthesiology.

George Callman, M.D., State Hospital No. 2, St. Joseph, has become a member of Buchanan County Medical Society. Dr. Callman is a native of Polajewa, Poland, received his preliminary education at the Royal Prussian Gymnasium and his M.D. degree at Friedrich Wilhalm University in 1920. He specializes in psychiatry.

Juan Cancelada, M.D., 224 Meramec Station Rd., Valley Park, has become a member of St. Louis County Medical Society. Dr. Cancelada is a native of Mexico City, Mexico, received his preliminary education at the National University of Mexico and his M.D. degree at the National University of Mexico in 1950. He specializes in obstetrics and gynecology.

Vincente Deles, 121-A Mississippi Ave., Crystal City, has become a member of Jefferson County Medical Society. Dr. Deles is a native of Dgas Iloilo, Philippine Islands, received his preliminary education at the University of the Philippines and his M.D. degree at the University of Santo Tomas in 1955. He specializes in surgery.

Leonard J. Dumonceaux, M.D., 7301 St. Charles Rock Rd., St. Louis, has become a member of St. Louis County Medical Society. Dr. Dumonceaux is a native of Minnesota, received his preliminary education at St. John's University and his M.D. degree at St. Louis University in 1954. He specializes in psychiatry.

John R. Esther, M.D., Ferguson's Medical Laboratories, Joplin, has become a member of Jasper County Medical Society. Dr. Esther is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Missouri in 1961. He specializes in pathology.

Lawrence L. Evans, M.D., St. Luke's Hospital, Kansas City, has become a member of Jackson County Medical Society. Dr. Evans is a native of Manhattan, Kansas, received his preliminary education at Kansas State University and his M.D. degree at the University of Kansas in 1958. He specializes in general surgery.

Billy A. Gillen, M.D., Trinity Lutheran Hospital, Kansas City, has become a member of Jackson County Medical Society. Dr. Gillen is a native of Chicago, Illinois, received his preliminary education at the University of Missouri, and his M.D. degree at the University of Kansas in 1954. He specializes in anesthesiology.

John A. C. Kenny, M.D., 411 Nichols Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Kenny is a native of Youngstown, Ohio, received his preliminary education at John Carroll University and his M.D. degree at Marquette University in 1960. He specializes in dermatology.

George H. Ladyman, M.D., 623 Pine, Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. Ladyman is a native of Knob, Arkansas, received his preliminary education at Arkansas State College and his M.D. degree at the University of Arkansas in 1957. He specializes in radiology.

Jerald P. Lane, M.D., 800 Thunderbird Drive, Harrisonville, has become a member of West Central Missouri Medical Society. He is a native of Carthage, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1963. He is in general practice.

Financial Report (Cont'd)

Howard	1	5		6	
Jackson	71	661	118	850	225.00
Jasper	1	58	3	62	100.00
Jefferson	1	14	2	17	
Johnson		11	1	12	
Lafayette-Ray	2	21	1	24	
Lewis-Clark-Scotland		2		2	
Lincoln-St. Charles	9	31		40	
Marion-Ralls-Shelby	2	24	3	29	
Mid-Missouri	7	21	2	30	
Miller		2		2	
Mineral Area	3	30	4	37	
Moniteau		3	1	4	
Montgomery		4		4	
Morgan		4		4	
North Central	2	10	1	13	
Northwest Mo.		15	3	18	
Ozarks	1	37	8	48	
Pemiscot		16	1	17	150.00
Perry-Ste. Genevieve		9	2	11	
Pettis	2	26	3	31	
Pike	3	6	1	10	
Platte	1	6	1	8	
St. Louis City	177	1,124	95	1,396	1,437.50
St. Louis County	26	380	43	449	
Saline	1	13	2	16	50.00
Semo		30	3	33	
South Central		18	3	21	
Webster		2		2	
West Central	6	29	8	43	
Totals	386	3,316	361	4,063	$2,062.50 (A)

(A) Delinquent dues of members at December 31, 1966 carried at the request of local Societies.

New Members (Cont'd)

Arturo C. Montes, M.D., 8700 Riverview Dr., St. Louis, has become a member of St. Louis County Medical Society. Dr. Montes is a native of the Philippine Islands, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1955. He is in general practice.

James J. Muehlberger, M.D., 6700 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Muehlberger is a native of Kansas City, received his preliminary education at Rockhurst College and his M.D. degree at Creighton University in 1960. He specializes in pediatrics.

Liam O'Brien, M.D., State Hospital No. 2, St. Joseph, has become a member of Buchanan County Medical Society. Dr. O'Brien is a native of Cobm Co. Cork, Ireland, received his preliminary education at Christian Brothers College and his M.D. degree at Royal College of Dublin in 1953. He specializes in psychiatry.

Huberta King Rice, M.D., 709 N. Main St., Brookfield, has become a member of Grand River Medical Society. Dr. Rice is a native of Kansas City, received her preliminary education at the University of Missouri and her M.D. degree at Washington University in 1952. She is in general practice.

Malcolm F. Shalet, M.D., 425 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Shalet is a native of Kansas City, received his preliminary education at Yale College and his M.D. degree at the University of Kansas in 1959. He specializes in internal medicine.

William C. Shell, 1012 N. Main, Sikeston, has become a member of Semo County Medical Society. Dr. Shell is a native of Dexter, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1962. He specializes in internal medicine and gastroenterology.

Robert H. Shipp, M.D., 204 Hale Lake, Warrensburg, has become a member of Johnson County Medical Society. Dr. Shipp is a native of Louisville, Kentucky, received his preliminary education at Georgetown College and his M.D. degree at the University of Tennessee in 1958. He is in general practice.

Donald B. Simmons, M.D., West Missouri Mental Health Center, Kansas City, has become a member of Jackson County Medical Society. Dr. Simmons is a native of Lee's Summit, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1962. He specializes in psychiatry.

J. Edward Slankard, M.D., 4320 Wornall Road, Kansas City, has become a member of Jackson County Medical Society. Dr. Slankard is a native of Pittsburg, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1958. He specializes in obstetrics and gynecology.

Barry B. White, M.D., 330 N. Second St., Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. White is a native of Puxico, received his preliminary education at the University of Missouri and his M.D. degree at Washington University in 1956. He is in general practice.

Mardonio Jesus Regis Yap, M.D., Jennings & W. Florissant, Jennings, has become a member of St. Louis County Medical Society. Dr. Yap is a native of Cebu City, Philippine Islands, received his preliminary education at the University of Santo Tomas and his M.D. degree at the University of Santo Tomas in 1958. He is in general practice.

In Memoriam

Ahlefeld, Charles B., M.D., 9804 Sagamore, Shawnee Mission, Kansas, a graduate of the University of Cincinnati, 1928; member of Jackson County Medical Society; aged 63; died December 6, 1966.

Beal, Homer, M.D., Malden, a graduate of Washington University, 1904; member of Dunklin County Medical Society; aged 84; died December 15, 1966.

Cossins, Carlos E., M.D., State Hospital No. 2, St. Joseph, a graduate of Chicago College, 1910; member of Northwest Missouri Medical Society; aged 84; died December 22, 1966.

Juden, Alexander G., M.D., Rt. 2, Cape Girardeau, a graduate of the University of Tennessee, 1928; member of Cape Girardeau County Medical Society; aged 63; died December 31, 1966.

Lauranzana, Frank, M.D., 420 S. White St., Kansas City, a graduate of Rush Medical School, 1925; member of Jackson County Medical Society; aged 67; died December 31, 1966.

Crites, Edward, M.D., Sedgewickville, a graduate of Washington University, 1905; member of Cape Girardeau County Medical Society; aged 85; died in December, 1966.

Lilly, Terry E., Sr., M.D., 1815 E. 63rd St., Kansas City, a graduate of the University of Bellevue, 1904; member of Jackson County Medical Society; aged 85; died January 1, 1967.

Woltzen, Simon W., M.D., 223 N. Main, Clinton, a graduate of Marion-Sims, 1893; member of Henry County Medical Society; aged 96; died January 6, 1967.

Laffoon, France L., M.D., 869 Alto Visto Drive, Visto, California, a graduate of Kansas University, 1913; member of Jackson County Medical Society; aged 79; died January 7, 1967.

Costrino, John J., M.D., 922 Jeanerette, University City, a graduate of Tufts College, 1938; member of St. Louis County Medical Society; aged 55; died January 10, 1967.

Kubitschek, Paul E., M.D., 5385 Waterman, St. Louis, a graduate of Creighton University, 1922; member of St. Louis Medical Society; aged 69; died January 10, 1967.

Myers, Wilson A., M.D., 425 Huntington Rd., Kansas City, a graduate of Rush Medical College, 1912; member of Jackson County Medical Society; aged 83; died January 15, 1967.

Javaux, Everett J., M.D., 6274 Forest Court, St. Louis, a graduate of St. Louis University, 1925; member of St. Louis Medical Society; aged 69; died January 16, 1967.

Togetherness....

...can be rough when epidemics of nausea and vomiting strike a family. Emetrol offers prompt, safe relief. It is free from toxicity[1] or side effects[2,3] and will not mask symptoms of serious organic disorders.

1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst, & Gynec. *65*:311 (Feb.) 1953.

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EDITORIALS

CONGENITAL MALFORMATIONS STUDY

The successful solution to the health problems posed by the infectious diseases in the past was the result, in large part, of the practicing physician's recognition of the exact nature of the illness, the specific place of its occurrence and the time sequence of similar illness experience among his other patients who were "at risk" or had already evidenced the disease.

It is heartening to read in this issue of Missouri Medicine [see page 230] that the University of Missouri is setting out to apply this proven methodology to the problem of congenital malformations in children. It is the practicing physician who first becomes aware of such a problem and its tremendous impact upon the individual family. The rarity of such malformations in just one physician's practice and the infrequency of epidemics, such as those occasioned by thalidomide, make it imperative that we, as physicians, act in concert to pool our knowledge of the occurrence of each individual case.

It has been our hope, since we first began to note the presence of anomalies upon birth certificates, that such reporting would aid in the differentiation of "nature" from "nurture" in the causation of such defects. Environmental preventive measures in this increasingly important cause of childhood disability and death will become possible only after such environmental factors have been identified as being specific causes.

An interesting new approach to the study here in Missouri is the cooperative and simultaneous participation of the farmers of the state, the University Extension Service and the Conservation Commission. This will enable birth defect surveillance in domestic animals and wild life. The enumeration and location of the large number of congenital defects made possible through such surveillance of multiple species should enable meaningful answers at a much earlier period.

We will look forward with interest and expectation to the development of this study and will do our best to continue and to improve the birth certificate reporting of congenital malformations.

CARL J. MARIENFELD, M.D.
Department of Community Health
and Medical Practice
University of Missouri School of Medicine

DIRECTION

A few weeks ago a diverse group of medical men were sitting around the dinner table. The meal was over, coffee was being enjoyed and a few were adding girth with calorie desserts. The talk turned to medical societies: county, state and national.

To a man, all felt that medical societies were not placing emphasis in the right areas. It seems for the most part that county societies are functioning much as they did 50 years ago, often presenting meetings on medical subjects that can not possibly interest more than 10% of those present. With each medical ethnic group having its own organization—local and national—why spend time, energy and money in these areas?

Where, then, does the county society fit in?

Since these societies are a voluntary membership, there can be only one answer: service to its members.

The big question, then, is where? how? when?

During the Thanksgiving holidays, I talked with an engineer over cocktails about his small manufacturing plant. He has 30 or 40 employees and, being very close to them, he is much aware of their problems. He recently had experienced some unpleasant and trying days with physicians and Medicare. He felt that changes were needed and, since it concerned medicine, it was our problem to correct them.

I explained that Medicine's influence had not been effective enough to forestall Medicare. His reply was, "You're influential and have money enough. Why doesn't your organization do something?"

Well, why don't we do something?

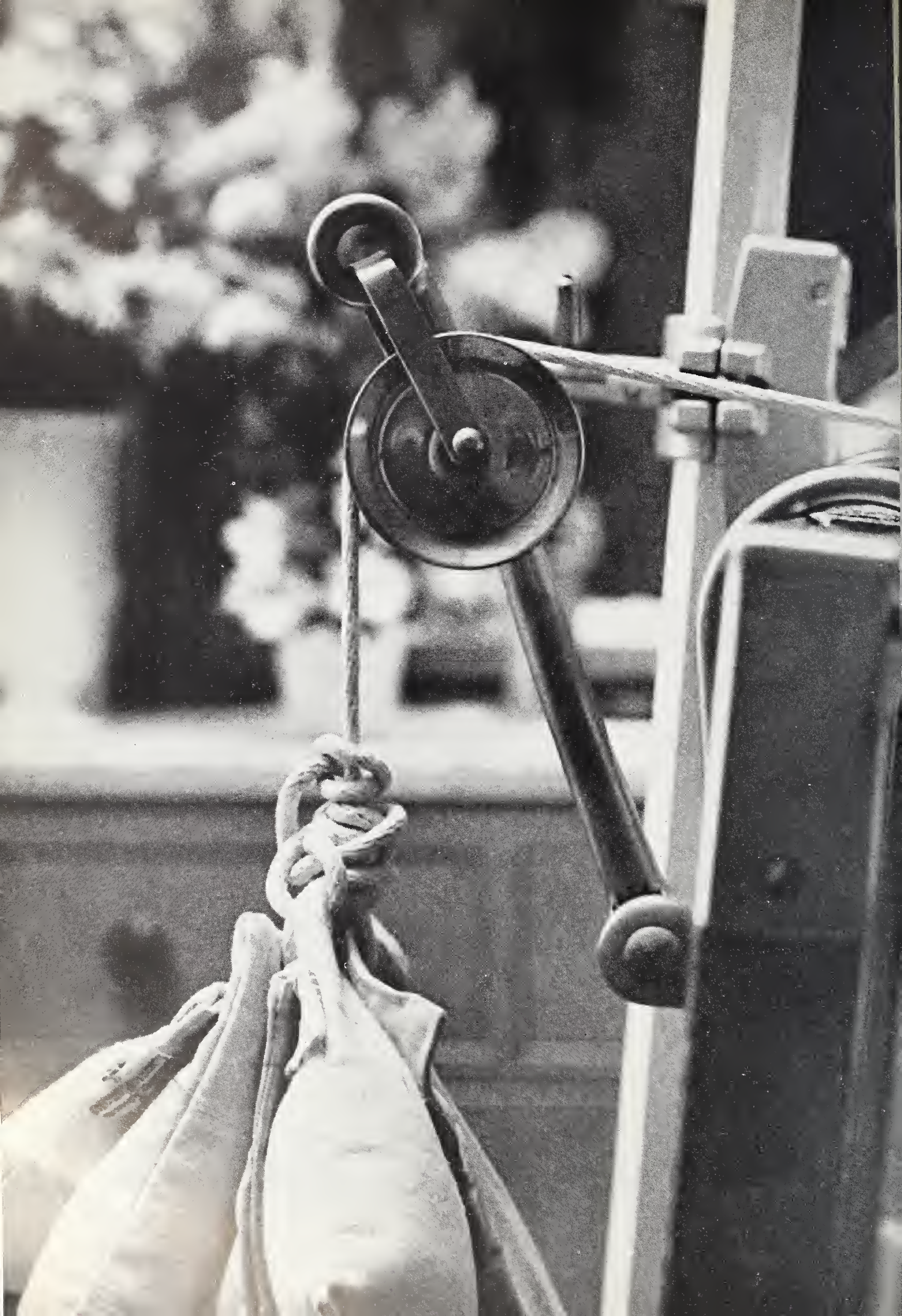
The challenge is there, gentlemen, and the answer to the challenge is—public relations, public education and political influence.

Missouri State, after these many years, placed its headquarters in the capital to be close to the source of legislative power. When is the AMA going to see the light?

Fifty years ago the physician was his own PR man. His patients lived and worked about him. Most of them attended the same church and others he met in local social groups. Most of them could walk from home to office. Today, 15 or 20 miles is a short distance from home to office, and social contact with patients is almost nil. More and more our lives are restricted to radio, television, computers and the few short hours of respite we jealously hoard with our families. Where is life leading us?

I, for one, would rather do the leading.

E. H. STRATEMEIER, Editor
Greater Kansas City Medical Bulletin



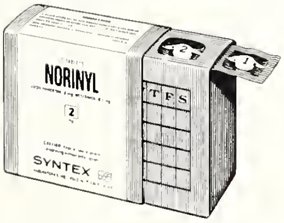
plus important supportive benefits that help her through those critical early months of oral contraception

low incidence of side effects

Low incidence of BTB and spotting, nausea and amenorrhea tends to minimize side effect problems and increases patient cooperation.

no confusion about dosage

An unbreakable "confusionproof" package makes it easy to adhere to prescribed dosage schedule: individually sealed tablets numbered from 1 through 20 *plus* monthly calendar record enables patient to double-check dosage intake by day and corresponding tablet number.



Contraindications: Thrombophlebitis or pulmonary embolism (current or past). Existing evidence does not support a causal relationship between use of Norinyl and development of thromboembolism. While a study which was conducted does not resolve definitively the possible etiologic relationship between progestational agents and intravascular clotting, it tends to confirm the findings of the Ad Hoc Advisory Committee appointed by the Food and Drug Administration to review this possibility. Cardiac, renal or hepatic dysfunction. Carcinoma of the breast or genital tract. Patients with a history of psychic depression should be carefully studied and the drug discontinued if depression recurs to marked degree. Patients with a history of cerebral vascular accident.

Warning: Discontinue medication pending examination if there is sudden partial or complete loss of vision, or if there is a sudden onset of proptosis, diplopia or migraine. If examination reveals papilledema or retinal vascular lesions, medication should be withdrawn.

Precautions: By May 1963, experience with norethindrone 2 mg.—mestranol 0.1 mg. had extended over 24 months. Through miscalculation, omission or error in taking the recommended dosage of Norinyl, pregnancy may result. If regular menses fail to appear and treatment schedule has not been adhered to, or if patient misses two menstrual periods, possibility of pregnancy should be resolved before resuming Norinyl. If pregnancy is established, Norinyl should be discontinued during period of gestation since virilization of the female fetus has been reported with oral use of progestational agents or estrogen. When lactation is desired, withhold Norinyl until nursing needs are established. Existing uterine fibroids may increase in size. In metabolic or endocrine disorders, careful clinical preevaluation is indicated. A few patients without evidence of hyperthyroidism had elevated serum protein-bound iodine levels, which in the light of present knowledge, does not necessarily imply hyperthyroidism. Protein-bound iodine increased following estrogen administration. Bromsulphalein retention has occurred in up to 25% of patients without evidence of hepatic dysfunction. Studies from 24-hour urine collections have shown an increase in aldosterone and 17-ketosteroids and decrease in 17-hydroxycorticoid levels. Thus, Norinyl should be discontinued prior to and during thyroid, liver or adrenal function tests. Because progestational agents may cause fluid retention, conditions such as epilepsy, migraine and asthma require careful observation. Thus far no deleterious effect on pituitary, ovarian or adrenal function has been noted; however, long-range possible effect on these and other organs must await more prolonged observation. Norinyl should be used with caution in patients with bone, renal or any disease involving calcium or phosphorus metabolism.

Side Effects: Intermenstrual bleeding; amenorrhea; symptoms resembling early pregnancy, such as nausea, breast engorgement or enlargement, chloasma and minor degree of fluid retention (if these should occur and patient has not strictly adhered to medication plan, she should be tested for pregnancy); weight gain; subjective complaints such as headache, dizziness, nervousness, irritability; in a few patients libido was increased. In a total of 3,090 patients, 2.2% discontinued medication because of nausea.

NOTE: See sections on contraindications and precautions for possible side effects on other organ systems.

Dosage and Administration: One Norinyl tablet orally for 20 days, commencing on day 5 through and including day 24 of the menstrual cycle. (Day 1 is the first day of menstrual bleeding.)

Availability: Dispensers of 20 and 60 tablets; bottles of 100.

References: **1.** Council on Drugs. JAMA 187:664 (Feb. 29) 1964 **2.** Brvans, F. E.: Canad Med Ass J 92:287 (Feb. 6) 1965. **3.** Goldzieher, J. W.: Med Clin N Amer 48:529 (Mar.) 1964. **4.** Cohen, M. R.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965. **5.** Hammond, D. O.: Ibid. **6.** Rice-Wray, E., Goldzieher, J. W., and Aranda-Rosell, A.: Fertil Steril 14:402 (Jul.-Aug.) 1963. **7.** Goldzieher, J. W., Moses, L. E., and Ellis, L. T.: JAMA 180:359 (May 5) 1962. **8.** Kempers, R. D.: GP 29:88 (Jan.) 1964. **9.** Tyler, E. T.: JAMA 187:562 (Feb. 22) 1964. **10.** Rudel, H. W., Martinez-Manautou, J. and Maqueo-Topete, M.: Fertil Steril 16:158 (Mar.-Apr.) 1965. **11.** Flowers, C. E., Jr.: N Carolina Med J 25:139 (Apr.) 1964. **12.** Goldzieher, J. W.: Appl Ther 6:503 (June) 1964. **13.** The Control of Fertility. Report adopted by the Committee on Human Reproduction of the American Medical Association. JAMA 194:462 (Oct. 25) 1965. **14.** Flowers, C. E., Jr.: JAMA 188:1115 (June 29) 1964. **15.** Merritt, R. I.: Appl Ther 6:427 (May) 1964. **16.** Newland, D. O.: Paper presented at Symposium on Low-Dosage Oral Contraception, Palo Alto, Calif., July 15, 1965. Reported in Med Sci 16:26 (Nov.) 1965.

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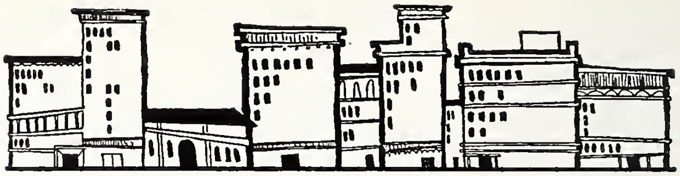
From the Medical Schools



Dr. Mayer

William D. Mayer, M.D., Associate Dean of the School of Medicine at the University of Missouri since 1964, has been appointed Dean of the School and Director of the Medical Center, effective July 1. The announcement was made Feb. 3 by Chancellor John W. Schwada, who also said that Vernon E. Wilson, M.D., now Dean and Director, has been appointed to a new administrative position, Executive Director for Health Affairs.

Dr. Mayer will return to Columbia from Bethesda, Md., the first of July after a 15-month leave of absence from the School of Medicine. He is currently associate director of the Division of Regional Medical Programs of the National Institutes of Health and Chief of the Continuing Education Branch of the Division.

Dr. Mayer has been with the School of Medicine at Missouri since 1961 when he was appointed assistant dean and assistant professor of pathology. He was named a Markle Scholar in 1962.

Dr. Wilson, who has been dean of the School of Medicine and director of the Medical Center since Nov. 1, 1959, came to Missouri from the University of Kansas where he had been associate and later acting Dean.

OPERATING
Bill O'Malley

With his new appointment as Executive Director for Health Affairs on the University of Missouri's Columbia campus, his responsibilities will include the Medical Center, the Missouri Crippled Children's Service and the teaching and research programs in nine other health care institutions in the state which are affiliated with the School of Medicine. He also serves as consultant to the President of the University for health affairs on all campuses.

In assuming broader duties, Dr. Wilson will spend a larger amount of his time in his role as project director for new research programs being undertaken by the Missouri Regional Medical Program, which has its headquarters on the University campus in Columbia.

Dr. Lester E. Wolcott, Associate Professor in the School of Medicine, has been elected Secretary for the Section on Physical Medicine and Rehabilitation of the Southern Medical Association. He and other officers will be responsible for arranging the program for this section at the organization's 61st annual meeting in Miami Beach, Nov. 13-16. The SMA, one of the largest general medical organizations in the country, covers 16 southern states and the District of Columbia.

ST. LOUIS UNIVERSITY

A five year grant totaling approximately $200,000 for a uterine cancer screening program from the chronic disease division of the United States Public Health Service has been received by the St. Louis University School of Medicine. Principal School of Medicine physician investigators in grant program will be Dr. Denis Cavanagh, Professor of Gynecology and Obstetrics and Chairman of the department at the St. Louis University School of Medicine; Dr. George E. Gantner, Associate Professor of Pathology, Pathologist and Director of Laboratories at the St. Louis University Hospitals; and Dr. Vincent G. Palermo, Assistant Professor of Pathology at the School of Medicine and Associate Pathologist and Cytopathologist at the University.

The systematic screening of indigent patients began at the St. Louis University Hospitals February 1 with the service being available to all indigent patients without charge. In addition, all female indigent hospitalized patients will get the test as part of their routine examination should they so desire it.

Dr. George E. Thoma, Jr. has been named Assistant Vice-President and Research Administrator for the St. Louis University Medical Center. Dr. Thoma is an Associate Professor of Internal Medicine. He also directs the Section of Nuclear Medicine and the radioisotopes laboratory at the St. Louis University Hospitals.

Two School of Medicine scientists have been named research career development awardees by the United States Public Health Service for the support of their salaries for a five year period. They are Dr. Subir K. Bose, Assistant Professor of Microbiology, and Dr. William J. Longmore, Assistant Professor of Biochemistry. Dr. Bose's research area is in the regulation of protein synthesis, a virus infected bacteria. Dr. Longmore's research speciality is in the area of interactions of carbohydrate and lipid metabolism.

Dr. Alphonse M. McMahon, 71, Associate Professor Emeritus of Internal Medicine at the St. Louis University School of Medicine and former Chief of Staff, died suddenly Thursday, February 2, of heart disease at his home in St. Louis.

Dr. McMahon, a 1919 graduate of the St. Louis University School of Medicine, was consultant to the surgeon general of the United States Navy from 1946 to 1965. He was attending physician to former President Truman at the Potsdam Conference and later was the attending physician to the late John Cardinal Glennon of St. Louis.

Dr. McMahon served as President of the St. Louis Medical Society in 1939, the Southern Medical Association in 1954, the American Therapeutic Society in 1938 and the Southern Medical Association in 1954. He won a distinguished service medal from the Mississippi Valley Association and was honored by the St. Louis Medical Society last year.

WASHINGTON UNIVERSITY

The Washington University Medical Society attracted one of its largest attendances recently with a discussion entitled "The Aims of Medical Education." Speakers were: Douglas Alvord, President of the Senior Class; Dr. Sam L. Clark, Jr., Associate Professor of Anatomy; Dr. Harvey R. Butcher, Professor of Surgery; Dr. Michael M. Karl, Assistant Professor of Internal Medicine; and Dr. Samuel B. Guze, Professor of Psychiatry. Dr. William H. Danforth, Vice-Chancellor for Medical Affairs, was Moderator.

The St. Louis Society of Neurological Sciences was addressed by Dr. Sol Sherry, Professor and co-head of the Department of Internal Medicine. His illustrated lecture topic was "Development of Urokinase for Thrombolytic Therapy."

Dr. J. V. Basmajian, head of the Department of Anatomy, Queen's University Faculty of Medicine, Kingston, Ontario, Canada, was speaker at the 15th annual Robert J. Terry Lecture. His subject was "Muscles Alive—Electronic Explorations of Inner Space."

At a cancer workshop entitled "Symposium on Tumors of the Sympathetic Nervous System in Children," the following Washington University Medical School faculty members were featured speakers: Dr. Carlos A. Perez, Assistant Professor of Radiology; Dr. Teresa Vietti, Associate Professor of Pediatrics; Dr. Robert H. Lund, Surgical Clincial Assistant; Dr. Lauren V. Ackerman, Professor of Surgery and Surgical Pathology; and Dr. William H. McAllister, Associate Professor of Radiology.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.
Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

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114 W. 10th St., Kansas City 5, Mo.
(Western Missouri Administrators)

Missouri Academy of Psychiatry Annual Meeting

The Missouri Academy of Psychiatry will hold its 2nd Annual Meeting in connection with the 109th Annual Session of the MSMA in April, 1967. Dr. James M. A. Weiss, President of the Academy, announces that a social hour and dinner will be held in the Lido Room of the Hotel Chase in St. Louis on Friday, April 7, 1967. Activities will begin at 6:30 p.m.

Physicians who are not members of the Academy of Psychiatry are welcome to attend the dinner meeting provided reservations have been made in advance. Arrangements should be made with James N. Haddock, M.D., 950 Francis Place, Clayton, Missouri 63105.

Viet Nam Seminar in St. Louis

A seminar concerning medical problems affecting both the Vietnamese population and American troops in Viet Nam will be presented at 7:30 p.m. on April 6 at the Chase-Park Plaza Hotel, St. Louis.

Dr. Dan Campbell, Colonel, MC, USAF, will speak on "Observations from the MeKong Delta." Colonel Campbell, Commander of Scott Air Force Base Hospital, was the medical officer in charge of the first Military Provincial Surgical Team of the Air Force located at Can Tho in the heart of the MeKong Delta. He assisted Major-General Humphreys in removing a live 40mm rifle grenade from a Vietnamese in Saigon last year.

The program also will include discussions of malaria, as found in the Viet Nam highlands, and problems relating to evacuation of U. S. casualties.

A special invitation has been extended to members of MSMA, as well as the St. Louis Medical Service personnel, to attend.

It's your professional privilege to replenish your ranks . . .

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Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

Availability: Tablets of 100 mg.

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Is he alert, encouraged, positive and optimistic about getting out of bed and back to work soon?
Or is he giving in to the depressing impact of confinement?
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Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

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Available Only On Prescription

Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%; pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing life experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly meeting on January 12 with 42 members and guests in attendance. Dr. W. Ford Keitzer from the Department of Surgery, University of Missouri, discussed "Vascular Emergencies." He made a very practical and timely presentation.

Delegates to the MSMA Annual Session in St. Louis were elected and are as follows (First named is Delegate; second is Alternate Delegate):

Caldwell County, Frank R. Daley, M.D., Howard Carter, M.D.; Carroll County, Erroll W. Allen, M.D., John H. Platz, M.D.; Daviess County, Edward M. Nixon, M.D., J. Larry Dowell, M.D.; DeKalb County, James H. Sweiger, M.D., None; Grundy County, Albert D. Cross, M.D., Chester L. Clark, M.D.; Harrison County, Willard Ellsworth, M.D., Marriam Gearhart, M.D.; Linn County, John R. Dixon, M.D., Glennon Horner, M.D.; Livingston County, Donald M. Dowell, M.D., Joseph A. Conrad, M.D., and Mercer County, Windsor B. Atcheson, M.D., None.

The monthly meetings will continue to be on the second Thursday of each month, but the new meeting place will be the Strand Hotel in Chillicothe.

Albert D. Cross, M.D., *Secretary*

"I suggest you get a stamp meter at your office or transfer from the mailing department."

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society met in Nevada on January 12. Total attendance was 20 members and guests. A social hour and dinner preceded the scientific program. The meeting was called to order by Dr. A. W. Eklund, President. The scientific portion of the program was a presentation by Dr. Hector Benoit, thoracic surgeon from Kansas City. Dr. Benoit presented a very informative and interesting discussion of "The Differential Diagnosis of Hemoptysis." Following his scientific presentation, he held an informal discussion of some of the problems confronting the Missouri State Medical Association in the coming year.

Following the scientific meeting, a business meeting was held. Minutes of the previous meeting were read and approved. Correspondence received by the Secretary was presented and discussed. A discussion was held concerning the submission of a candidate for the Blue Cross-Blue Shield Board. It was decided to take no action on this matter until the next meeting.

The consideration of a future program on disaster medical care was tabled until the February meeting. Correspondence from the Medical Secretaries and Assistants was presented by the President and copies of the correspondence were distributed. The financial report for the year 1966 was presented by the Treasurer and approved. It was moved and seconded that the Society contribute the amount of $500 to the Missouri State Medical Foundation. This motion was carried unanimously. The President announced the committee appointments for 1967.

It was called to the attention of the Society that the April meeting would follow the MSMA meeting and will not be held because of its proximity to the MSMA meeting. There being no further business to come before the Society, it was announced that the February meeting would be held in Butler with Dr. Carter Luter handling the program and local arrangements. The meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

Lafayette-Ray County Medical Society

The January meeting of the Lafayette-Ray County Medical Society was held January 10 at Lexington. Ten members were present for the dinner meeting. President William LaHue presided at the business meeting, which was followed by a program presented by Dr. Eugene Robichaux of Excelsior Springs. Dr. Robichaux discussed the AAGP program, Pap smear testing and gave details for members interested in entering into this program. Dr. Charles Riley was appointed local chairman in charge of the program.

Wayne Boydston, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area Medical Society

The Mineral Area Medical Society met in Farmington on January 26.

The program for the evening was to have been highlighted by a talk by Dr. William F. Melick on the subject, "Pediatric Urology." Because of extremely bad weather, which made driving conditions hazardous, Dr. Melick could not attend. Only those members who live in the immediate area of Farmington were able to attend.

This was a joint meeting with the Woman's Auxiliary. After the business meeting, the members of the Auxiliary served cake and coffee to the group.

At the business meeting, the following delegates and alternate delegates to the MSMA Annual Session were named and are as follows (First named is Delegate; second is Alternate Delegate):

Washington County, Kirby L. Turner, M.D., George Cresswell, M.D.; St. Francois County, Robert Huckstep, M.D., Charles H. Appleberry, M.D.; Iron County, Ben M. Bull, M.D., Robert F. Dettmer, M.D., and Madison County, Marvin Grossman, M.D., None.

The following members of the staff at the State Hospital in Farmington were guests at the meeting: Dr. and Mrs. Pichardo, Dr. and Mrs. Chand, Dr. and Mrs. Raza, Dr. and Mrs. Arguelles, Dr. and Mrs. Calvo and Dr. Magrinat.

William Ford, M.D., *Secretary*

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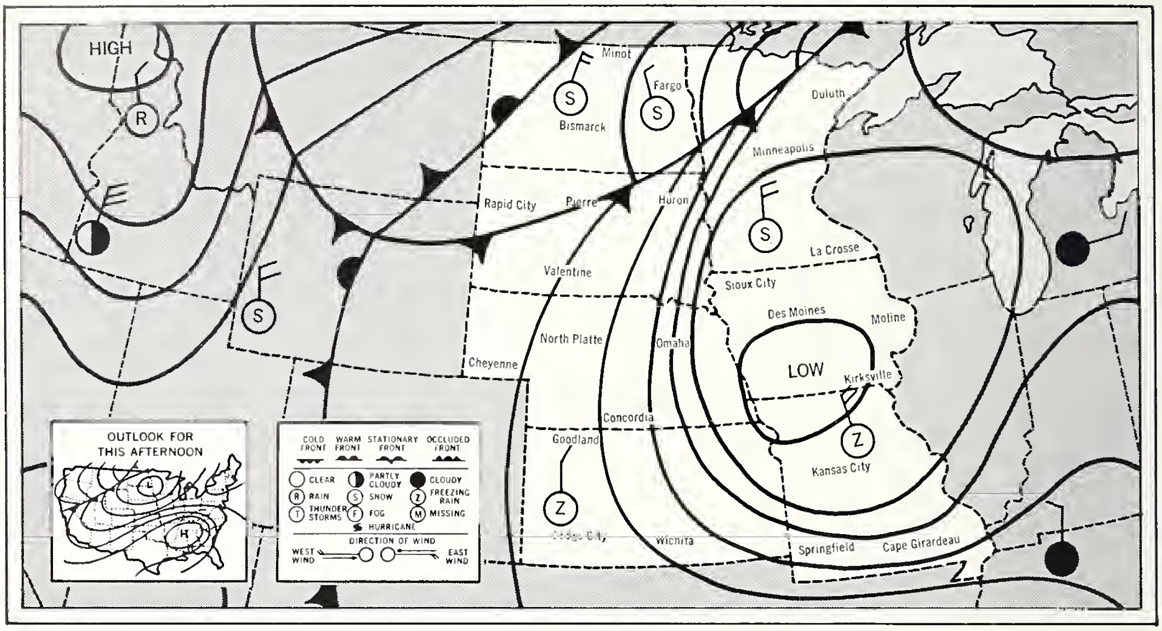
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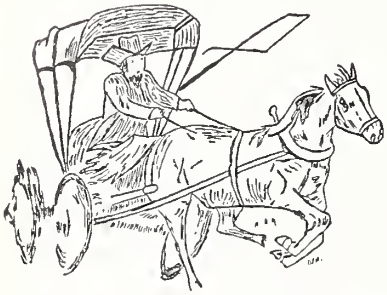
Missouri Medicine in Review



FORTY YEARS AGO

W. C. Gayler, M.D., St. Louis, writes about Posterior Pituitary Extract (obstetrical), "Never in human history has the use of a new remedial agent spread with such rapidity as did posterior pituitary extract in 1909. At that time, most obstetricians were convinced that we stood in the presence of the greatest revolution that had taken place in our work since the introduction of the obstetrical forceps by Chamberlain. There would be no more 24-hour deliveries—no more loss of sleep. Everything was to be done rapidly, efficiently and without confusion. In St. Louis, the situation is about as follows: Teachers and consultants continually shout that the stuff should rarely or never be used. However, they use large quantities in their own private work."

The Clay County Medical Society held its regular meeting at the Snapp Hotel, Excelsior Springs. At the scientific session, Dr. S. D. Henry spoke of a remarkable case in which three cesarean sections were performed on the same patient who did not seem to dread it. She would simply get into her vehicle, go directly to the hospital, have her section and then drive home with her baby when the affair was over.

The idea of holding free cancer diagnostic clinics in connection with the general educational campaign for the control of cancer is not new. In 1925, under the state chairmanship of Dr. Fred J. Taussig, St. Louis, such clinics were established and extensively advertised during the campaign.

TWENTY-FIVE YEARS AGO

The 85th Annual Session of the Missouri State Medical Association will be held in Kansas City April 27-29. All sessions, except the luncheon and dinner meetings, will be held in the Municipal Auditorium. Among the out-of-state speakers who will address the general meetings are Dr. Cobb Pilcher, Associate Professor of Surgery, Vanderbilt University School of Medicine; Dr. George R. Herrmann, Professor of Clinical Medicine, University of Texas Faculty of Medicine; Dr. Hobart A. Reimann, Magee Professor of Practice of Medicine and Clinical Medicine, Jefferson Medical College, Philadelphia; Dr. Russell L. Haden, Cleveland; Dr. Arthur Purdy Stout, Associate Professor of Surgery, Columbia University College of Physicians and Surgeons; and Dr. Oliver Cope, Assistant Professor of Surgery, Harvard Medical School.

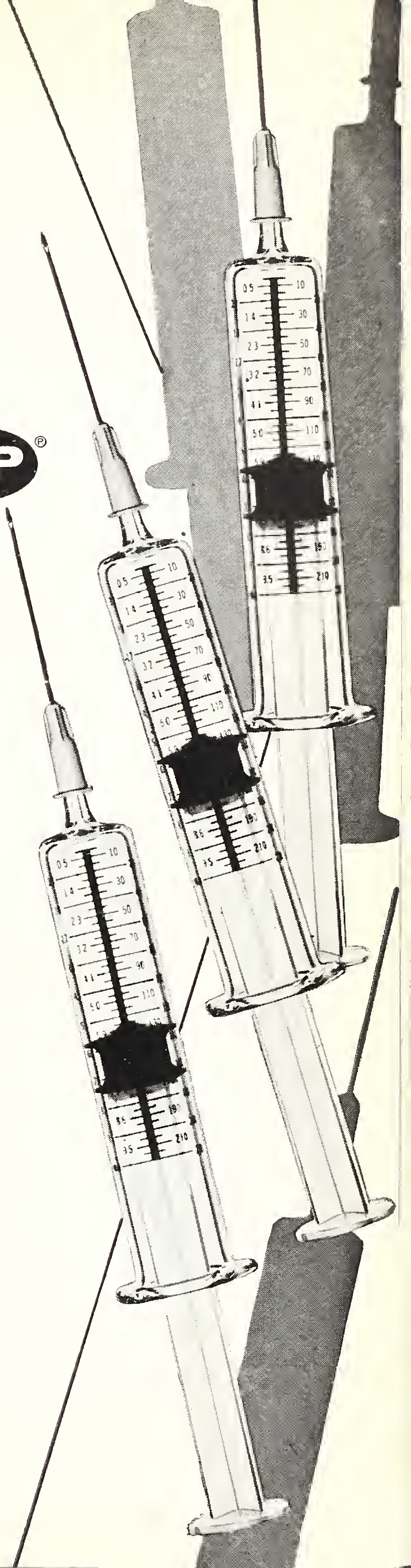
The Physician's Federal Income Tax—1942: The basic rate remains the same, 4% on net income in excess of allowable exemptions and credits. The surtax this year is imposed on the first dollar of net income above the personal exemption and credit for dependents. The surtax rate is 6% on the first $2,000 and 9% on the second $2,000, with a constant increase in the rate for incomes in the higher brackets.

TEN YEARS AGO

Dr. Josiah Bartlett was not the only physician to sign the Declaration of Independence. There were four others. They are Drs. Lyman Hall, Benjamin Rush, Matthew Thornton and Oliver Wolcott. All were in active practice at the time except Dr. Wolcott. While trained in medicine, he had given it up for law.

The annual meeting of the Callaway County Medical Society was held at the Clinic Building, State Hospital No. 1. The following officers were elected: President, Dr. Tom Brewer; vice-president, Dr. J. J. Brown; secretary, Dr. James Hill; treasurer, Dr. Tom Johnson; delegate to MSMA, Dr. W. J. Cremer; Alternate, Dr. George F. Wood.

The Ozarks Medical Society and its Woman's Auxiliary held a dinner meeting at Monett on January 8. Following a social hour, a smorgasbord dinner was served. Second trips to replenish empty plates were practically unanimous.



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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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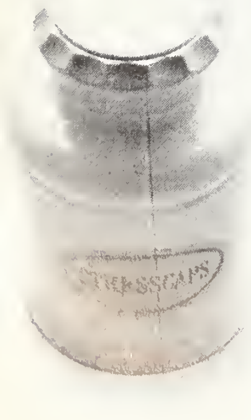

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10th Anniversary

1966-67 at the University of Missouri Medical Center

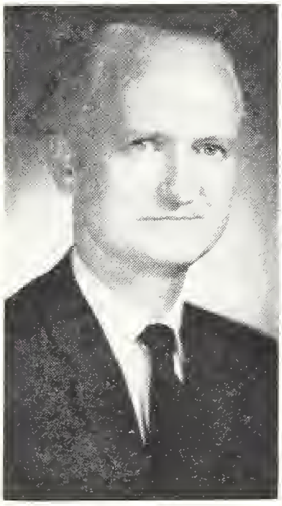
A Review

VERNON E. WILSON, M.D., ***Dean and Director***

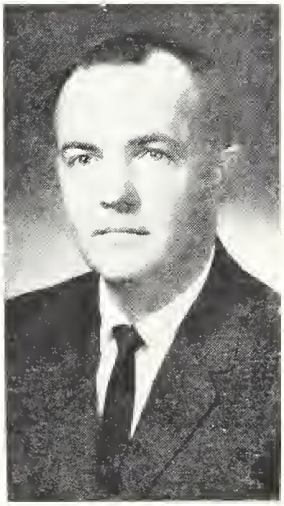
THE TENTH YEAR of the operation of the University of Missouri four-year School of Medicine has been particularly impressive. A combination of national events, plus the natural crystalization of a decade of effort, have contributed to dramatic changes in complexion and direction, fulfilling the dreams which had been held for this center by its many friends throughout the state.

Dr. William Mayer, who served as Associate Dean from 1961 to 1966 and since that time has been on leave of absence as Associate Director of the Regional Medical Programs at the National Institutes of Health, will be returning in July as Dean of the School of Medicine and Director of the Medical Center. The author will then take up a new title and a wider set of responsibilities as Executive Director of Health Affairs for the Columbia campus and Consultant to the President on Medical Affairs for state-wide programs. The latter assignment has been in effect throughout the present year. This will make it possible to work much more closely with practicing physicians throughout the state and the several affiliated hospitals which have joined with the University in exploring ways of directly improving health care as well as the training of new personnel.

The Heart, Stroke, Cancer legislation, which resulted in the creation of the Regional Medical Programs Division of the National Institutes of Health, has presented new opportunities for coordinated work between medical centers and practicing physicians. The Missouri Regional Medical Planning Grant (which includes all of the state with the exception of metropolitan St. Louis) was one of the first five such grants in the nation. Dr. George Wakerlin, who joined our staff August 1, 1966, has quickly drawn to the program a very competent and energetic group. At the time of this writing, we have been informed that Missouri will be one of the first four regions to receive project funding. It is indicated that this will be a substantial amount and will allow implementation of at least a portion of the very excellent programs which have been submitted by physicians, hospitals and community groups throughout the state. Obviously, there will be many more plans than the available money can support, but under the guidance of the Advisory Council, chaired by Mr. Nathan Stark of Kansas City, it is expected that an orderly and logical means will be evolved by which new projects can be introduced as old ones are phased out. All such projects represent exploratory efforts by practicing physicians in cooperation with the University in finding ways of improving health care while preserving the time-honored relationship between the physician and his patient. A number of articles on regional medical programs have appeared elsewhere and others are expected as further information becomes available.



Dr. Wilson



Dr. Mayer

University of Missouri Medical Center

You are all well aware that medicare is now in operation and that, even before it is well launched, there are numerous requests to expand these services. Every hospital in the state has already felt the impact and is experiencing a mounting crescendo of demands as the medicare programs become more widely used. The amount of paper work which has accompanied this program, both for physicians and institutions, is impressive indeed. As we move forward, we plan to continually explore means by which the amount of paper routine may be reduced and handled in an automated form or, at the very least, in a manner designed to save professional time and energies.

In January of this year, the Missouri Baptist Hospital in St. Louis signed an agreement to affiliate with the University of Missouri, thus completing the list of planned affiliations for the School of Medicine. This is a private hospital with a fine, new physical plant in the suburbs of St. Louis. In this agreement, as with the eight other affiliated institutions in the state, research in newer and better methods of health care will be carried out while assisting the hospital in its training and educational programs. The professional staff of Baptist Hospital voted unanimously to join in this affiliation and Dr. Frank Catanzaro has joined their staff as Director of Medical Education and an appointee of the University in the Department of Medicine.

Facilities of the new Mid-Missouri Mental Health Center in Columbia are now in operation. This 120-bed center, which is physically attached to the medical school, demonstrates optimal cooperative endeavor between two state agencies. Members of the staff and various facilities are shared to provide high quality care at the lowest possible cost. The new center will offer the latest in mental health care for the middle third of the state as well as provide community mental health services for an eight-county catchment area adjacent to Columbia.

Plans for the 480-bed Veterans Administration Hospital to be built in Columbia, and attached to the present Medical Center complex, have been put out for bid and, hopefully, that facility will be under construction sometime this summer or early fall. Again the federal government, through recent legislation and some new proposed legislation, is indicating its intention of making this a meaningful part of the medical school teaching complex. This plan will permit the new hospital to provide care for veterans while, at the same time, reducing the need for additional facilities for teaching programs in Columbia.

Over the past two years, the author has had an opportunity to serve on the commission appointed by Governor Hearnes for a review of the Division of Health. This committee (which is chaired by Dr. John Whitney and includes a number of physicians, among them Dr. Hector Benoit and Dr. Howe Eller) has studied extensively the present programs of the Division of Health and ways in which these might be strengthened and promoted. This has resulted in three bills, introduced by Senator Cason (Senate bills 74, 75 and 76), which would provide for a) a Board of Health, b) a realistic salary for the head of the Division of Health and c) a definition of the qualifications necessary for such a position in present day circumstances. These proposals are worthy of intensive study by all members of the medical profession in the state, and they should reflect their opinions through their local legislators at the earliest possible time.

EDUCATIONAL PROGRAMS

The medical school class to be enrolled this fall has been increased to 91 in anticipation of completion of the new addition which is presently under construction. This new area should be in operation by the fall of 1968 at which time the class will be enlarged to 100.

The addition will provide the very latest in advantageous settings for students of medicine. Especially designed areas will make it possible for each student to have, during his first two years, a home base for study, lectures and demonstrations. Members of the faculty will be brought to small groups of students, both in person and through electronic means. This arrangement, already utilized at several other centers, is expected to facilitate the student's understanding of the vast amount of material to which he is exposed during the basic science years and to assist him in relating this material to the clinical problems which he will encounter later.

Currently there are 325 medical students, 287 students in the School of Nursing and 123 students enrolled in master's or doctoral programs in the basic sciences. In addition, approximately 1500 other University students take some courses for credit at the Medical Center. Still others, from such areas as social work, clinical psychology, special education, nutrition and speech pathology, take a part of their clinical training in the Medical Center setting.

At University Hospital, the house staff presently numbers 96. There are also 107 residents and interns in training under University sponsorship in Kansas City and 40 residents in similar programs in St. Louis.

We are attempting to meet our responsibilities consistent with the rapid growth in graduate study and the increasing demands for expansion of training programs for medical technologists, X-ray technologists, physical therapists and other supportive people for health care.

In nursing education, the Columbia faculty members have been under heavy pressure because of relatively severe restrictions placed upon them due to space limitations. That staff is operating in approximately one-sixth of the nationally recognized space requirement for teaching facilities, while accepting classes of approximately 90 new students each fall. In order to preserve accrediting standards with the present limited facilities, the freshman class must be held to that number. This has resulted in a large number of well-prepared students being unable to gain admission to the School of Nursing in Columbia. Extensive study is being given both to the expansion of the program on the Columbia campus and to the possible sponsorship of new baccalaureate programs in association with the University campuses in Kansas City and St. Louis and the affiliated hospitals in those communities.

The Commission on Higher Education appointed by the Governor is concurrently conducting a study of the needs for more physician manpower in the state, under the direction of Dr. Stanley Olson, a nationally known medical figure who served for several years as Dean of the University of Baylor College of Medicine in Houston, Texas. Results of this study are expected to be available sometime this summer or fall and should be helpful to the legislature and the University in making plans for the future.

SERVICE PROGRAMS

A necessary and very important part of the education of the health professions is the rendering of service. Although limitations of space, particularly in the outpatient clinic area, have severely handicapped our desire to meet expanding requests, still several new activities have been launched during the past year. One of these is the Birth Defect Study Center under the Department of Pediatrics and Dr. Gerald VanLeeuwen. This staff offers diagnostic assistance and therapeutic consultation on request in behalf of children with birth defects. This new service, in conjunction with the Multiple Handicap Clinic, which provides an intensive work-up for children with a wide variety of defects, makes available some unique resources of the School of Medicine for the assistance of referring physicians. In addition, the Chancellor of the Columbia campus has appointed a Mental Retardation Council to review the role which might be played by the University in providing some limited service in this area while establishing an extensive teaching program for those who will work with the mentally retarded. The new mental retardation centers, now opened or

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planned throughout the state, will require many more staff members than would appear to be currently available. It is hoped that the University may play a complementary role in this regard.

Research Growth

While expenditures alone are never an accurate reflection of true research growth, they, nevertheless, give some insight into its dimension. Medical school research is now being conducted not only in Columbia, but in the affiliated hospitals. At Kansas City General, $491,252 in research grants was received during the past 12 months. Children's Mercy Hospital in Kansas City received $121,826 in both research and training grants. At the Missouri Institute of Psychiatry, funds totaling $516,411 were received to cover a variety of projects. In Columbia, research awards amounted to $4,462,758. This figure does not include the new and probably substantial grant which will support projects under the state-wide Regional Medical Program.

Building Needs

In this tenth year, it is apparent that the School of Medicine has moved more clearly into focus in regard to the role of a medical school on the campus of a land-grant institution.

It is now quite clear that, if we are to adequately stem the rapid rise in costs of consultation, a new and more adequate outpatient clinic area must be established, in a building where ambulant care is possible and some type of inexpensive dormitory facility can be provided. A request will go to the legislature this spring asking for funds to begin the first stages of such construction this fall.

A request also will be placed before the University for expansion of nursing education facilities in Columbia. Hopefully, plans will be developing on the Kansas City and St. Louis campuses simultaneously to explore the rate at which those campuses would be able to support expansion of their existing nursing education programs.

As research in health care and, particularly, the search for better methods of postgraduate education progress through the Regional Medical Program, additional building space for that program will be required. Already it has been necessary to lease space. This would seem to be unwise, as well as needlessly divisive by removing key members of the faculty from the central Medical Center facilities.

Summary

In retrospect, this has been an exciting and fitting tenth year of activity. Almost all of the progress to date has been accomplished through the support of many friends throughout the state and their continuing unselfish interests in the development of the best of education for physicians and other health care personnel who can render care to patients throughout the state. The tremendous demands being placed upon all health care systems through federal and state legislation indicates that we dare not pause at this point. Your continued advice, counsel and enthusiastic support will be essential if the University of Missouri School of Medicine is to keep pace with the increasing demands which are being placed upon it.

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Continuing Education Coming Events

Apr. 5-7	**Postgraduate Medical Study—Otorhinolaryngology** University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kansas (17 credits)
Apr. 10-13	**Postgraduate Medical Study—Surgery** University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kansas (24½ credits)
Apr. 12-13	**Seminar in Urology** Kansas City General Hospital and Medical Center Kansas City
Apr. 24-28	**Workshop in Pediatric Radiology** Children's Mercy Hospital Kansas City
May 5	**5th Annual Pediatric Seminar** Baptist Memorial Hospital 6601 Rockhill Road, Kansas City
May 10-11	**Conference—Hypertension** M.U. School of Medicine Medical Center, Columbia
May 11	**18th Annual Dr. F. G. Thompson, Sr., Lectureship** "Complex Supraventricular Arrhythmias: Recognition and Management"—Dr. Lewis E. January, Professor of Medicine, University of Iowa Thompson, Brumm & Knepper Clinic 902 Edmond St., St. Joseph
May 11-13	**14th Annual Meeting, Mid-Central States Orthopaedic Society** Sheraton Prom Motel, Kansas City
May 11-13	**Region VIII, American Academy Orthopaedic Surgeons** General Meeting Sheraton-Prom Motel, Kansas City
May 19-20	**Modern Trends in Medical Management** Menorah Medical Center, Kansas City
May 24-26	**Postgraduate Medical Study—Epilepsy, Syncope and Related Disorders** University of Kansas Medical Center Kansas City, Kansas

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Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
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Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

PRESCRIBING INFORMATION
For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes. CONTRAINDICATIONS: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. PRECAUTIONS: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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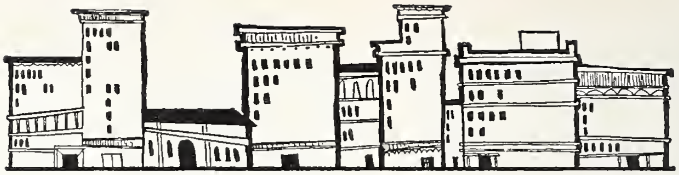
From the Medical Schools



WASHINGTON UNIVERSITY

A Washington University School of Medicine scientist has received a United Cerebral Palsy Research and Educational Foundation two-year grant for $57,634.

William R. Sherman, Ph.D., Research Assistant Professor of Biochemistry in Psychiatry, was named recipient of the funds for study of sugars in tissues of the nervous system and their relationship to certain diseases. Mark A. Stewart, M.D., Assistant Professor of Psychiatry and Pediatrics, is working in collaboration on the study.

In the past year, they have identified three sugars not before known to be present in the nerve and brain. With the aid of the United Cerebral Palsy grant, they plan to extend studies to include more complex sugars and those present in smaller quantities than now being measured. Dr. Sherman's equipment already has measured one substance in tissue in amounts which are equal to a billionth of an ounce.

Dr. Sol Sherry, Professor and Co-head of the Department of Internal Medicine, School of Medicine, has received the New York University School of Medicine Alumni Association Scientific Achievement Award for 1967. This is the highest award given annually on Alumni Day to the alumnus who has distinguished himself scientifically.

Bill O'Malley

"You say you can't sleep, Mrs. Henry . . . first rip out your phone and then take an aspirin!"

During the past 21 years, Dr. Sherry has been at the forefront of efforts to develop a blood clot-dissolving agent for general clinical use. He is recognized as a world leader in this field.

Dr. Raymond A. Ritter, Jr., Senior Resident in Orthopedic Surgery at Washington University School of Medicine and Barnes Hospital, has received the third J. Albert Key Memorial Fellowship. The award and accompanying $500 honorarium for an outstanding graduate student was established as a memorial to the late Dr. Key who was professor of orthopedic surgery from 1924 to 1955. Previous recipients of the award are Dr. W. Edward Lansche, 1959, and Dr. William S. Costen, 1961. Both are Instructors in Clinical Orthopedic Surgery at the Medical School.

MISSOURI UNIVERSITY

Dr. Fred V. Lucas, Professor and Chairman of the Department of Pathology at the University of Missouri School of Medicine is in Saigon, South Vietnam, as a medical educator to help plan future medical education and training programs for Vietnamese students. Dr. Lucas will advise on the expansion of a curriculum in pathology.

He is one of a selected group of medical experts to help expand the curriculum essential to utilizing a new medical school in Saigon under arrangements made by the United States Agency for International Development (AID) and the American Medical Association (AMA).

After spending a month in Saigon to investigate the present situation of the pathology curriculum, he is expected to invite the chairman of the pathology curriculum to Columbia to spend several weeks at the University Medical Center. Together, they plan to work out a curriculum for pathologists and medical technologists in the University of Saigon Medical School. Plans also will be made for bringing promising students at the graduate level to the University of Missouri for further specialization in the field.

A modern, new medical school building was opened in Saigon this year and is expected to graduate 200 physicians and 50 dentists a year by 1970. The number of doctors in Vietnam now is less than 1,000. Of these, about 700 are in the armed forces and 100 are not practicing.

The AID-AMA program represents a long-range program in providing more physicians for South Vietnam.

ST. LOUIS UNIVERSITY

Dr. Solomon A. Weintraub, 81, Professor Emeritus of Clinical Gynecology and Obstetrics at the St. Louis University School of Medicine, died suddenly on February 24, while vacationing with Mrs. Weintraub in Sarasota, Florida.

Dr. Weintraub began his long teaching career in gynecology and obstetrics at the St. Louis University Hospitals in 1914, where he was named Associate Professor of Clinical Gynecology and Obstetrics in 1950. Besides his career as a faculty member, he has had a long career as a practitioner. On January 23, 1963, he was the recipient of an honorary certificate naming him Professor Emeritus of Clinical Gynecology and Obstetrics. Dr. Weintraub was also cited in February of 1963 for his dedicated service to the University Hospitals and holds an honor award from St. Mary's Hospital.

Dr. Weintraub received the doctor of medicine degree at Washington University in 1909 and interned at St. Louis City Hospital for one year before his appointment at St. Louis University. He was a charter member and former president of the St. Louis Gynecological Society, a fellow of the American College of Surgeons, a member of the Missouri State Medical Association and the American Medical Association.

Robert P. Yoo, a junior in the School of Medicine, has been awarded a $1,523 fellowship which will permit him to assist at a mission hospital in Malawi, Central Africa, for 12 weeks this spring.

Yoo is one of 31 American medical students selected by the Association of American Medical Colleges to receive Smith Kline & French Laboratories Foreign Fellowships. The fellowships are supported by a grant from the Philadelphia prescription drug firm.

Yoo left recently for Likuni Hospital at Lilongwe where he will work under the supervision of Vincent Speckhart, M.D. The hospital has 167 beds and admitted 4,000 patients last year. About 17,000 patients visited the outpatient clinic.

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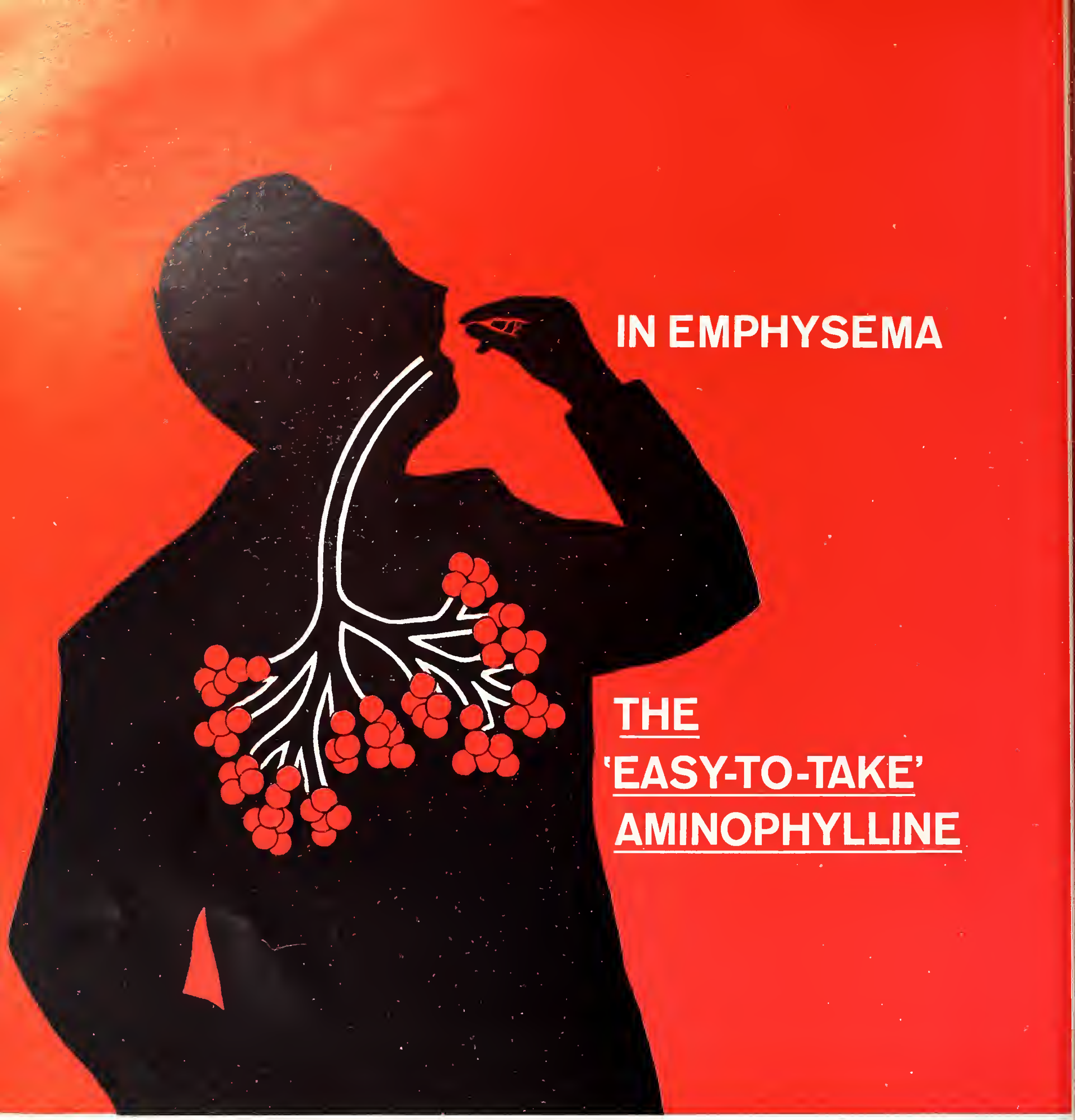

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IN THE LEGISLATURE

Three well-known Missouri legislators are scheduled to appear on the program of the 109th Annual Session of the Missouri State Medical Association. Senator William J. Cason (D-Clinton), Chairman of the Senate Public Health and Welfare Committee, will participate in a discussion of "Tax Dollars and Medical Care" on Friday, April 7, at 9 AM. On Saturday, April 8, Speaker of the House James E. Godfrey (D-St. Louis) and Minority Floor Leader R. J. King (R-St. Louis County) will share honors at a 12:30 PM luncheon. They will present their ideas on how "A Legislator Looks at the Medical Profession."

Missouri's 74th General Assembly has been quite sympathetic with the views of the medical profession and the legislative program of the State Medical Association. Months in advance of the legislative session, MSMA went on record as favoring implementation of Title XIX in Missouri. Following consultation with state officials, MSMA's Committee on Legislative Matters recommended and the Council approved support of Governor Warren E. Hearnes' proposal for gradual rather than immediate implementation. Legislative bills embodying the Governor's plan (SB 52, 53, 54, 55) are moving smoothly through the Assembly. Another measure (HB 94), which proposes immediate implementation of the basic welfare portions of Title XIX, was still being considered by a House committee at this writing.

MSMA also has given its support to bills (SB 74, 75, 76) which would create a state board of health to supervise operations of the Division of Health and to bring the salary of the Division Director up to a realistic level. After extensive amendment, the keystone bill in this series has been "perfected" by the Senate.

The House Judiciary Committee has recommended "Do Pass" for a measure to establish a medicolegal examiner system in Missouri (HB 440). MSMA has worked for such a program for several years, but this year managed to muster additional help from the legal profession, the State Highway Patrol, the Kansas City Police Department and coroners of St. Louis and Kansas City.

Missouri chiropractors again moved to amend their basic practice law, and the House Public Health and Safety Committee approved their proposal (HB 303) over objections of the Medical Association. On the floor of the House, however, amendments which were suggested by MSMA were adopted. The author immediately moved to have his bill placed on the Informal Calendar where it is expected to remain through the rest of the session.

The chiropractors also sponsored two separate bills in a renewed effort to gain recognition as practitioners under the Workmen's Compensation program. One proposal (HB 253), which would have classified chiropractors as "physicians and surgeons" under Workmen's Compensation, was killed in committtee. The second approach (HB 548), which proposes to add "chiropractic" services to the medical and health services already available under Workmen's Compensation, is still in committee at this writing.

A number of paramedical and health service groups are seeking statutory recognition in this session of the legislature. These include the physical therapists, psychologists, ophthalmic dispensers, hearing aid sellers and fitters and sanitarians. A physical therapist licensure bill (HB 152) moved through the House with considerable speed despite Medical Association urging for a substitute approach. The bill proposes to establish an independent Board of Physical Therapy to license and regulate the practice. The MSMA substitute would accomplish the same purpose but would do so under the ultimate supervision of the State Board of Registration for the Healing Arts.

Other proposals relating to medicine and health which are being considered include:

SB 137—Revise present duties and responsibilities of the Division of Health.

SB 241—Remove existing prohibitions on handling and sale of contraceptives.

SB 264—Authorize a county or group of counties to establish mental health centers.

SB 302—Require a one-year internship as prerequisite for physician-surgeon license.

HB 469—Authorize creation of Eastern and Western Missouri Health Care Authorities.

Patient Care One of 4 Topics at 1967 AMA Annual Convention

Patient care, from the standpoint of standard methods as well as research, will be one of four topics presented in general scientific sessions at this year's Annual Convention of the American Medical Association.

The Convention will be held in Atlantic City on June 18-22. The Scientific Program will be at Convention Hall, and nearby hotels, and the House of Delegates will meet at the Chalfonte-Haddon Hall Hotel. The General Scientific Meetings are open to all physicians attending the Annual Convention.

Other General Scientific Meetings on this year's Annual Convention program will be on the subjects of backache, healing and sex.

In addition to the General Sessions, each of the 22 Scientific Sections will present scientific programs. As in past years, many of the Section programs will be joint meetings of two or more Sections and, in some instances, a specialty society.

Specialty societies joining AMA Sections will include:

—The American College of Chest Physicians, which will join the Section on Diseases of the Chest for a program.

—The American College of Cardiology, which will join the Section on Internal Medicine in a session.

—The Society for Investigative Dermatology, Inc., which will hold its meetings in conjunction with the Section on Dermatology.

Medical motion pictures, which have become an integral part of the Annual Convention program, will be presented daily. Movies are carefully screened and selected for quality, content and diversity of subject matter. Some are chosen from the AMA library of medical motion pictures while others are picked from among films just completed. Several new films are usually shown for the first time at the Annual Convention. The total movie program is thus planned to achieve both variety and currency.

At least five color television programs will be presented live on a closed circuit from a Philadelphia hospital in cooperation with the University of Pennsylvania School of Medicine. Several of the Scientific Sections will participate in this year's color television program.

The entire Scientific Program for the 1967 Annual Convention will be published in the May 8 issue of the *Journal of the American Medical Association.*

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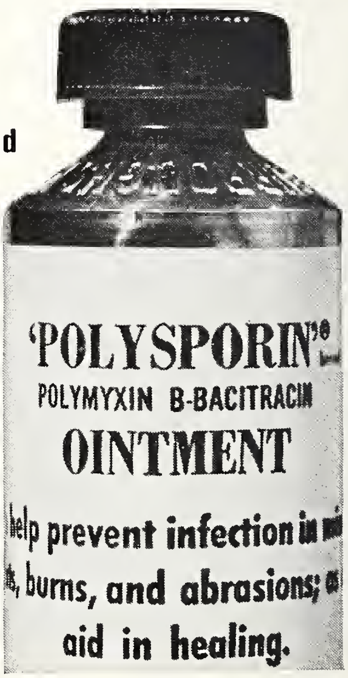


medical melange

Notes of interest from Here .... and There

Eight Missouri physicians have been awarded Clinical Fellowships by the American Cancer Society. Recipients of regular Clinical Fellowships are **Drs. Ronald W. Alexander, John L. Kiser, Michael Kryiakos** and **Morton A. Levy** at Washington University School of Medicine; **Drs. Hugh S. Harris** and **Clarence E. Riednour** at Ellis Fischel State Cancer Hospital; and **Dr. Carl Jansen** at the University of Missouri Medical Center. **Dr. Galen B. Cook** received an Advanced Clinical Fellowship at Ellis Fischel State Cancer Hospital. The Fellowships program now accounts for an annual allocation of more than $1,000,000 by the Society.

Dr. William B. Spalding, Plattsburg, is the first person to receive a Community Service Award from the Plattsburg Rotary Club. The plaque was presented to him recently at a dinner meeting which was attended by his former classmate and wife, **Dr. and Mrs. Carl Ferris,** Kansas City, and **Dr. John Forgrave,** St. Joseph. Dr. Spalding has practiced medicine in Plattsburg since 1928.

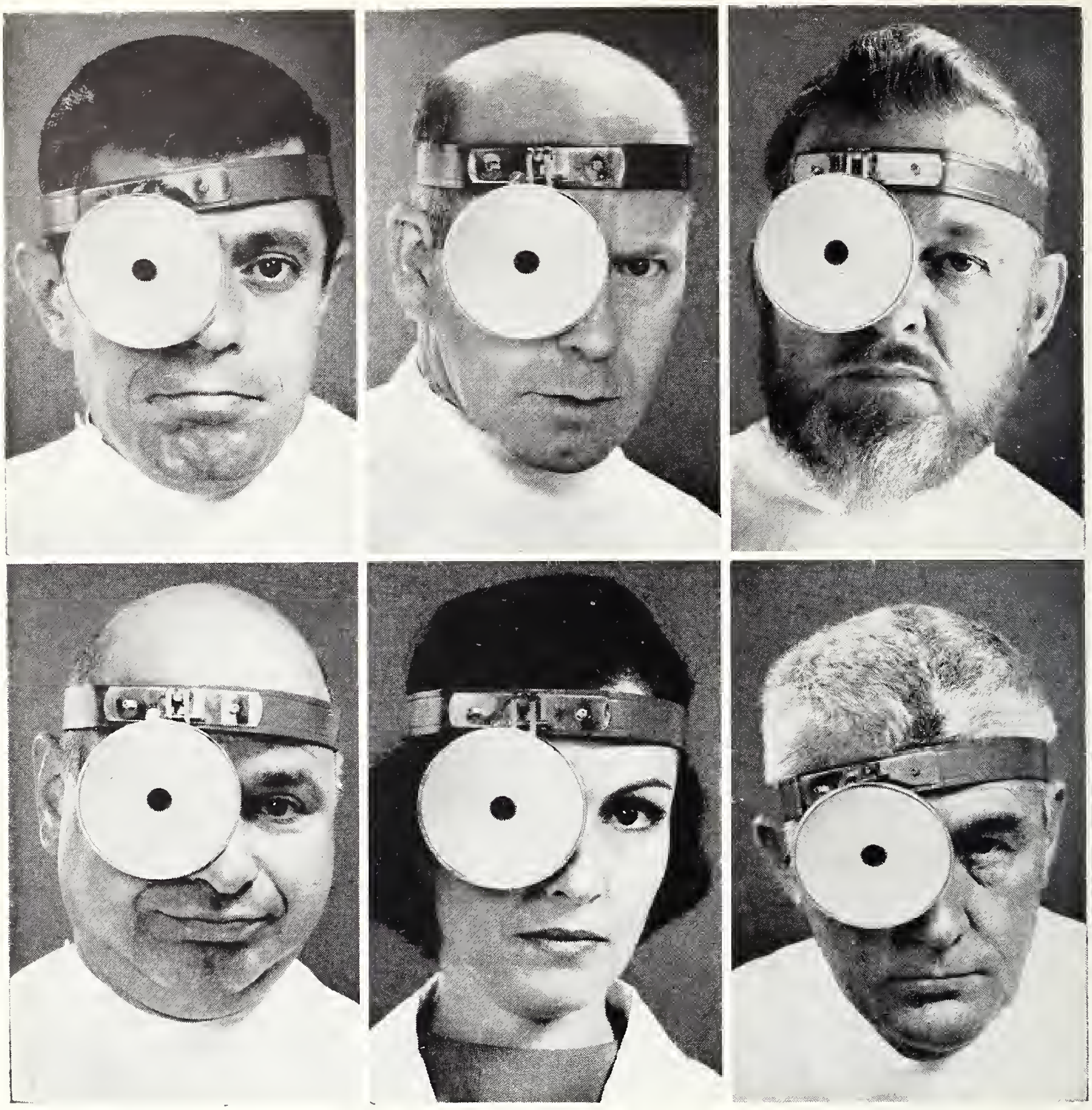
Dr. Gene B. Starkloff and his daughter, Kathleen, were the subjects of a feature story, "Like Father, Like Daughter in Surgery," which appeared in the *St. Louis Globe-Democrat* recently. Dr. Starkloff and his daughter are often a team of surgeon and surgical technician in the operating room at Firmin Desloge Hospital in St. Louis. Dr. Starkloff is a Professor of Clinical Surgery at St. Louis University and a former president of the University Hospital. Father and daughter also share a love of training Labrador retrievers.

Two Kansas City physicians have been appointed by the University of Missouri Board of Curators to advisory committees for medical matters. **Dr. Maxwell Berry** was named as a member of the medical advisory committee and **Dr. E. Ide Smith** was appointed to the crippled children's service advisory committee.—Governor Warren E. Hearnes has appointed **Dr. Melvin C. Kasten,** Cape Girardeau, to the state Board of Healing Arts. He succeeds **Dr. R. C. Conrad** of Springfield, whose term expired.—Chariton County court judges recently voted to retain **Dr. F. L. Harms**, Keytesville, as county health doctor.

An original oil painting of the Washington University School of Medicine was presented to its dean, **Dr. M. Kenton King.** The presentation by E. R. Squibb & Sons, Inc. is a part of a long-range plan by the pharmaceutical firm to create a collection of original oil paintings of the medical colleges of America. Known as "Collegia Medica," the project will continue until representative paintings of all 86 medical schools have been completed.

Dr. John F. Dee has been appointed Director of the V.A. Hospital in Jefferson Barracks, St. Louis.—**Dr. Donald T. Behrens** has been elected president of the medical staff of Lutheran Hospital, St. Louis.—**Dr. John E. Wilson** is the new Chief of Staff at West Plains Memorial Hospital.

More than 100 friends and guests gathered to honor **Dr. A. F. Bugg** on his 90th birthday last month in Lordsburg, New Mexico. Before moving to that community in 1957, Dr. Bugg practiced medicine in Missouri for 54 years. He is a member of Mineral Area Medical Society.



"All Otolaryngologists are Alike"

Just look at them and you can see how much they have in common. Besides, they all go through pretty much the same training, and pass the same kinds of tests, and measure up to the same sort of standards. Therefore, all otolaryngologists are alike. Right?

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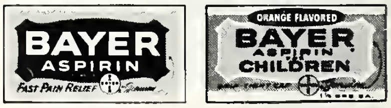
So next time you hear someone say that *all* aspirin tablets are alike, you can say, with confidence, that "it just isn't so."

You might also say that all otolaryngologists aren't alike, either.



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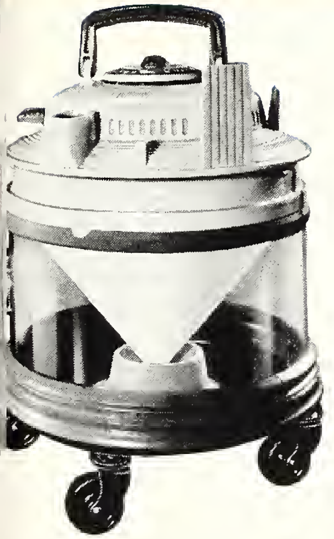

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly meeting in Chillicothe on February 9, with a good representation present.

We were sorry to hear of the recent death of Zita C. Brennan, wife of Dr. Raymond J. Brennan of Chillicothe.

The Grand River Medical Society will again have a hospitality room at the Annual Missouri State Medical Association meeting in St. Louis. We hope all of our friends will come by and renew acquaintances.

Albert D. Cross, M.D., *Secretary*

Buchanan County Medical Society

Seventy physicians and their guests attended the March 1 meeting of the Buchanan County Medical Society which followed a dinner. The speaker was a "home town boy," Dr. Robert E. Greenberg, Associate Professor of Pediatrics at Stanford University School of Medicine, who delivered an excellent paper on "Approach to the Child with Growth Failure." Dr. Greenberg's parents were present at the meeting, their first visit in St Joseph in more than ten years.

The senior physician, Dr. Charles Greenberg, was in the practice of Urology in St. Joseph for more than 40 years before he retired and moved with his wife to Los Angeles. He served as President of the Medical Society in 1937. The Greenbergs' visit was a pleasant reunion for many members of the Medical Society and the turnout for the meeting was the largest in some time.

Dr. Irwin Rosenthal, President, presided at the meeting and the business session that followed. Dr. R. Philip Acuff, Program Chairman, presented Dr. H. E. Petersen, who introduced the speaker.

Maxwell Day, M.D., *Secretary*

Bill O'Malley

"It was a lovely evening, until you mentioned Medicare."

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

West Central Missouri Medical Society

The West Central Missouri Medical Society met in Butler on February 9. Total attendance was 22 members and guests. A social hour and dinner preceded the scientific program.

The meeting was called to order by President, A. W. Eklund, M.D. The scientific portion was a presentation by George Wakerlin, Ph.D., M.D., Director for the Missouri Regional Program. Dr. Wakerlin presented the current status of this regional program and outlined its possibilities, particularly as it would afford help to the doctors in the communities away from a large medical center. Questions by individual members concerning particular aspects of the program were discussed.

Following the scientific program a business meeting of the Society was held. Minutes of the previous meeting were read and approved. Correspondence received by the secretary was presented. Dr. Eklund reported for the Executive Committee concerning its action in making Dr. Robert Magee delegate from Cedar County and appointing Dr. William Richter as alternate.

Under old business, the matter of a program on disaster medical care was discussed by the Society. On motion duly made and seconded, it was voted to have a program on this subject with the time, place and particular details of the program to be left to the discretion of the Program Committee. On motion duly made and seconded, the Secretary was instructed to forward the name

(Continued on page 308)

Volume 64, Number 4—April, 1967

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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RICHARD H. MARTIN, M.D. *and*
THOMAS N. COFER, JR., *Columbia*

Atrial Fibrillation in Wolff-Parkinson-White Syndrome

The Wolff-Parkinson-White (WPW) syndrome is an electrocardiographic abnormality usually occurring in healthy individuals without evidence of heart disease. Supraventricular arrhythmias, predominantly paroxysmal atrial tachycardias,[1] occur in a high percentage of patients with the syndrome. Atrial fibrillation, while relatively uncommon in the WPW syndrome, presents special problems in diagnosis and management which are not widely recognized. These problems form the basis for this report.

A variety of criteria has been proposed for the diagnosis of WPW syndrome. In the final analysis, the diagnosis rests upon the unequivocal demonstration of a relatively short P-R interval associated with a slow moving initial QRS force (the delta vector) which prolongs the QRS complex. When episodes of normal A-V and intraventricular conduction can be demonstrated, it is possible to prove the diagnosis of WPW syndrome even though the complexes manifesting pre-excitation fail to fulfill the usual interval criteria for the diagnosis. Unless intermittent normal conduction is carefully sought with frequent tracings and special measures, such as administration of atropine or mecholyl, normal conduction seldom will be detected. Since these measures rarely have been used in our series, we have adopted rather rigid criteria for the diagnosis (Table 1) in order to exclude other abnormalities of intraventricular conduction which may closely mimic the WPW syndrome. Although patients with a short P-R interval and normal QRS complex also may be prone to paroxysmal arrhythmias, such patients have not been considered to fall within the WPW syndrome for the purposes of this report.

Nineteen cases have fulfilled the criteria for the diagnosis of WPW syndrome at the University of Missouri Medical Center during the period from 1957 to 1967. Ten of the patients were female, nine were male. Their ages ranged from two months to 69 years (average 39 years).

TABLE I

DIAGNOSIS AND CLASSIFICATION OF WPW SYNDROME

Criteria for diagnosis

1. PR interval <0.12 sec.
2. QRS interval ≥ 0.10 sec.
3. Delta vector (slow moving initial QRS force).
4. Criteria (1) and (2) may be relaxed if intermittent normal A-V and IV conduction is demonstrated.

Classification

Type A: Delta vector anterior, to the left, and either superior or inferior (delta wave upward in precordial leads).

Type B: Delta vector leftward and posterior (delta wave downward in V_1 and V_2).

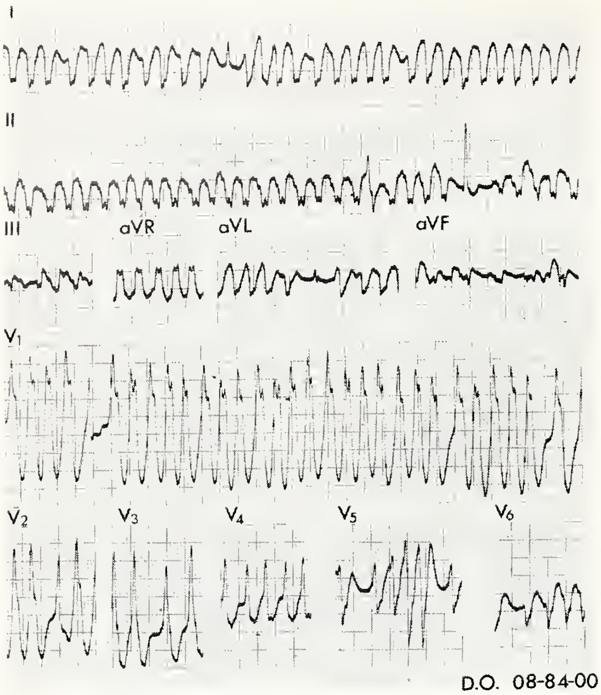

Fig. 1 Electrocardiogram from Case # 1 showing atrial fibrillation and a ventricular rate of 300/min. Variation in QRS complex morphology and duration is present. Occasional beats resemble those present during sinus rhythm in Fig. 2. Leads V_2-V_4 are ½ standardized.

Twelve manifested type A pre-excitation and seven type B. Three of the patients were shown to have intermittent normal conduction when in sinus rhythm. Three patients had experienced documented atrial tachycardia and two demonstrated atrial fibrillation. These two patients are described below.

Case Reports

Case # 1. An 18-year-old white male college student was admitted to the emergency room four hours after the onset of tachycardia associated with mild light-headedness and dull substernal discomfort. A diagnosis of WPW syndrome had been made three years previously after a similar episode which had terminated spontaneously. Quinidine 0.2 gm had been administered without effect. Physical examination revealed a normotensive young man who appeared in good health. The apical pulse varied between 260 and 300 per minute and there was a 100 beat/minute pulse deficit in the radial artery. Carotid massage had no effect. There were no signs of pulmonary or systemic venous congestion, and the neck veins revealed no significant pulsations or cannon waves. The remainder of the examination was normal. An electrocardiogram (Fig. 1) revealed an irregular rhythm with varying QRS complexes and no evidence of P waves. A diagnosis of WPW syndrome with atrial fibrillation was made. Digoxin, 1.75 mg, was administered over a five-hour period without significant effect on the ventricular rate. Twelve hours after the onset of fibrillation conversion to sinus rhythm occurred. The electrocardiogram (Fig. 2) then revealed typical type A WPW syndrome.

Case # 2. A 69-year-old white female had noted occasional transient blurring of vision and palpitations for one year. A similar episode occurred on the day of admission and became associated with anginal pain and dyspnea. She had been hypertensive for many years and had noted mild orthopnea for three years. She appeared pale, but in no distress; the pulse was 148 and irregular, the blood pressure 148/96. The chest was clear and the heart appeared normal except for the rhythm. Kyphoscoliosis was present, but the remainder of the examination was unremarkable. The electrocardiogram (Fig. 3) showed atrial fibrillation with aberrant intraventricular conduction and a rapid ventricular response. Digoxin, 2.0 mg, was administered over 24 hours with slowing of the ventricular rate to 80. Conversion to sinus rhythm occurred 30 hours after the onset of fibrillation and the electrocardiogram then revealed type B WPW syndrome (Fig. 4).

Discussion

The present series cannot be considered typical of the WPW syndrome in the general population. The incidence of the syndrome in a very large series has been estimated to be 0.16%.[2]

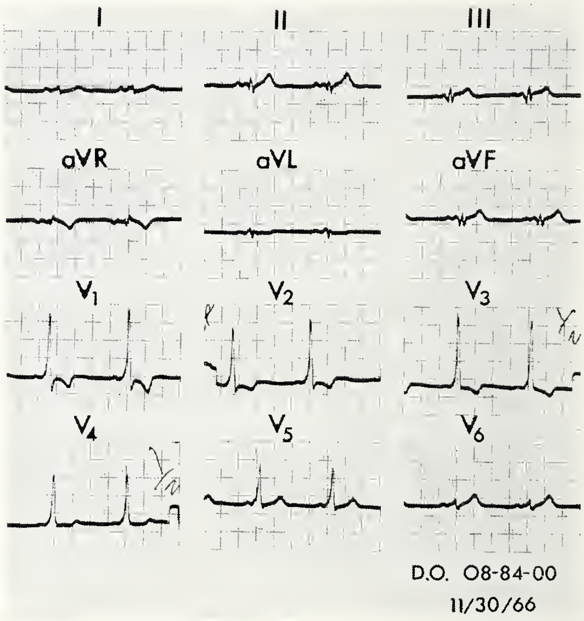

Fig. 2 Electrocardiogram from Case # 1 after conversion to sinus rhythm showing type A pre-excitation. P-R interval 0.09 sec. QRS interval 0.14 sec. Standardization as in Fig. 1.

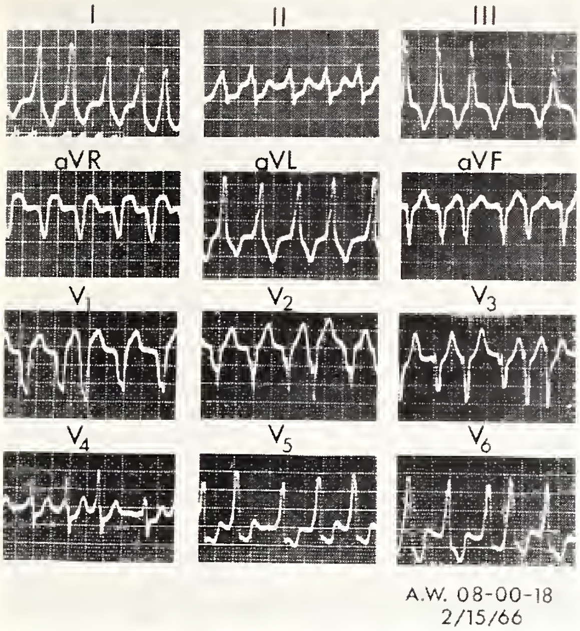

Fig. 3 Electrocardiogram from Case # 2 during atrial fibrillation. Ventricular rate 150.

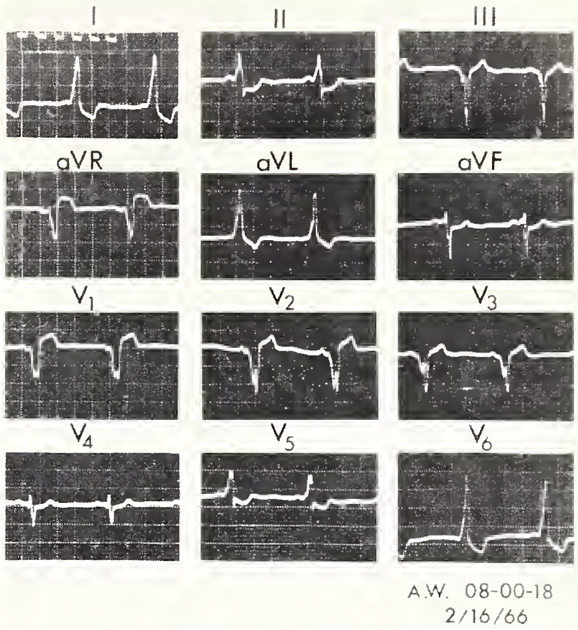

Fig. 4 Electrocardiogram from Case # 2 after conversion to sinus rhythm. Type B pre-excitation is present. P-R interval 0.11 sec. QRS interval 0.11 sec.

Sixty to 70% of cases are found in healthy individuals.[3] Tachycardia occurs in 40 to 80% of patients with the WPW syndrome, but atrial fibrillation occurs in less than 20% of cases.[4] Fibrillation previously has been described only in type A pre-excitation.[4]

Several hypotheses have been advanced to account for the electrocardiographic abnormalities and the predisposition to arrhythmias in the WPW syndrome. The most generally accepted theory postulates A-V conduction over an accessory pathway similar to that described by Kent in 1893,[5] thus bypassing the AV node. The premature excitation is said to involve the left ventricle in type A cases and the right ventricle in type B.[6] Atrial tachycardia is thought to arise from a re-entry phenomenon[1] as impulses are transmitted back to the atria via either the A-V node or accessory pathway. Atrial fibrillation may be induced by a re-entering impulse striking the vulnerable period of the atrium.[1]

Atrial fibrillation in patients with the WPW syndrome may be mistaken for ventricular tachycardia.[7-9] The resemblance of the arrhythmia shown in Fig. 1 to multifocal ventricular tachycardia is apparent and, indeed, such an electrocardiogram presents an alarming appearance. Several features assist in making the correct diagnosis. P waves are absent, or fibrillatory deflections may be seen in the baseline during pauses. The ventricular rate, while quite regular at times, shows more variation (over 0.04 seconds per cardiac cycle) than is usually found in ventricular tachycardia. Occasional normally conducted QRS complexes are present, and some beats may resemble those with pre-excitation

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Atrial fibrillation occurs in relatively few cases of the Wolff-Parkinson-White syndrome, usually in those with type A pre-excitation. Characteristically, the ventricular response is rapid, and little slowing occurs with digitalis. The electrocardiogram may resemble multifocal ventricular tachycardia and appear alarming, but the patient usually is in no distress. The authors summarize the experience with the WPW syndrome at the University of Missouri Medical Center and describe two cases of atrial fibrillation which illustrate the problems in diagnosis and management of this arrhythmia. One of these cases represents the first documented occurrence of atrial fibrillation in type B pre-excitation. Dr. Martin is Assistant Professor of Medicine and Mr. Cofer is a fourth-year student in the School of Medicine. Their report was supported in part by a grant from the St. Louis and Missouri Heart Associations.

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during sinus rhythm. This variation in QRS configuration is presumably caused by varying degrees of refractoriness in the A-V node and accessory pathway, with some beats conducted entirely via one route and others representing varying amounts of fusion. The patient with atrial fibrillation and WPW syndrome will generally look much better than his electrocardiogram, although a ventricular rate as rapid as that in Case # 1 might give rise to serious difficulty in patients with underlying heart disease. Few other diagnostic possibilities need be entertained in a young, otherwise healthy, adult who presents with an irregular ventricular rhythm at a rate in excess of 240 per minute. If the patient appears in good condition during the arrhythmia, the diagnosis of WPW with atrial fibrillation is virtually certain.[8, 9] Observation of the neck veins further assures the diagnosis since cannon waves, which would be expected in ventricular tachycardia when the atria and ventricles are contracting simultaneously, are absent.

The characteristic rapid ventricular response in this condition is presumably caused by A-V conduction through the accessory pathway, which remains refractory for a much shorter period than the A-V node. Digitalis thus should not be expected to slow the ventricular response to the same degree as when conduction occurs via the A-V node, which is highly sensitive to the vagal effects of the drug. Case # 1 failed to demonstrate any slowing prior to conversion to sinus rhythm. The reason for the relatively slow ventricular response and the slowing noted after digitalization in Case # 2 is not apparent. It is possible that the WPW syndrome in this case was not caused by an accessory pathway, but by the accelerated A-V nodal conduction proposed by Prinzmetal.[10] The advanced age of this patient and the close resemblance of the QRS complexes during fibrillation to those during sinus rhythm lend support to this hypothesis.

Although digitalis was administered to both of the patients with atrial fibrillation in the present report, it is probably not the drug of choice. It generally fails to slow the ventricular response, as in Case # 1, and may perpetuate the arrhythmia by increasing the excitability of the anomalous conducting tissue.[11] If slowing of the ventricular rate is used as an index of the adequacy of dosage, serious digitalis intoxication may result. Quinidine or synchronized capacitor discharge precordial shock[12] are probably the treatments of choice, although procaine amide may be more effective than quinidine in some cases.[8]

SUMMARY

Atrial fibrillation is a relatively unusual complication of the WPW syndrome. It presents certain unique features, when present in this syndrome, which may complicate its recognition and management. These features were discussed and illustrated by two cases from the series of cases of WPW syndrome at the University of Missouri. The first documented case of atrial fibrillation in a patient with type B pre-excitation was reported.

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Three $1,800 grants to encourage resident physicians to devote more time to the study of medical problems of the aging have been renewed by the American Geriatrics Society. The grants—inaugurated by Lederle Laboratories in 1962—will supplement the salaries the physicians receive. They will cover the period between July 1967 to June 1968. Application for the grants should be addressed to the Chairman, Fellowship Committee, American Geriatrics Society, 10 Columbus Circle, New York, N. Y. 10019. Deadline for applications is June 1, 1967. Announcement of the awardees will be made at the AGS annual meeting June 16-17 at Atlantic City.

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Physician's Referral Guide to Resources for the Visually-Handicapped

CURRENT ESTIMATES indicate that 417,000 legally blind persons now reside in the United States, and this total is expected to approach 520,000 by 1980.[1] An additional half-million have vision so impaired as to be classified as Partially-Seeing. Extrapolation of previous survey data[2] suggests that any given clinical physician[*] will attend about six such visually-handicapped persons during a 12-month period.

Despite the extensive literature about special services, agencies or other resources to which a visually-handicapped patient might be referred, there is no single reference source to which the physician can turn at will. Supplying that source is the intended purpose of this paper.

The following material is a modification of that which is routinely given to University of Missouri medical students during their five-week clerkship on the Physical Medicine and Rehabilitation Service. The presentation here has intentionally concentrated on *things* rather than on *concepts*, but the importance of the latter in the habilitation or rehabilitation process should be kept in mind.[3] Presented are the basic categories familiar to the practitioner; i.e., Vocational, Educational, Financial, Psychosocial, Medical, and Religious. The Mobility and Miscellaneous categories have been added for obvious reasons.

Each state has a central agency similar to Missouri's Bureau for the Blind. Items listing this referral address, therefore, are common to all such agencies. The single exception is Blind Pension, a local provision.

An orienting baseline of visual acuity levels is presented in Table 1.

I. VOCATIONAL

PREPARATION AND PLACEMENT

Purpose: To provide the necessary services to enable a blind person to engage in remunerative

TABLE 1

DEFINITIVE LEVELS OF CENTRAL ACUITY IN VISUALLY-HANDICAPPED PERSONS (BETTER EYE, CORRECTED)

	Common Definition	*Snellen Index (Max.)*	*Practical Test*	*Legal Significance*
I	Total blindness, or light perception only	Less than 2/200	Unable to see hand movement at 3 feet	Satisfies all criteria for legal blindness*
II	Form and motion	Less than 5/200	Hand movement visible, but unable to count fingers at 3 feet	Maximum accepted for Social Security
III	Travel vision	Less than 10/200	Unable to read newspaper headlines	Legal blindness, but does not meet Social Security criteria
IV	Minimal reading	Less than 20/200	Reads headlines, but not 14-point (4.7 mm) type	Maximum acuity for legal blindness
V	Partially-seeing (borderline)	More than 20/200, but less than 20/70	Cannot read 10-point (3.4 mm) type without marked difficulty	Not legally blind, but eligible for some services

* Legal blindness also present if visual field is contracted to 20 degrees or less (tunnel vision).

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[*] Excluding ophthalmologists and institutional or nonclinical physicians.

employment suited to his abilities and needs.

Administration: Missouri Bureau for the Blind; U. S. Department of Health, Education and Welfare.

Eligibility: (1) Legal blindness, or a progressive eye disease leading to blindness; (2) State resident; (3) demonstrated potential for successful vocational rehabilitation.

Specific Services:

1. Counseling and guidance in adjustment to blindness, and choice of vocation.
2. Necessary special training in daily living activities and independent travel.
3. Vocational training.
4. Necessary medical evaluation and physical restoration services, if needed.
5. Help in obtaining tools and equipment pertinent to vocation.
6. Assistance in obtaining job placement in industry, business, agriculture or a profession.
7. Necessary services for the unsalaried, blind homemaker, usually in coordination with a Home Teaching program.

Refer to: Bureau for the Blind, State Office Building, Jefferson City, Missouri 65101; Vocational Rehabilitation Administration (Blind Service), Washington, D. C. 20201.

Comment to Physician: This program is available to qualified blind persons regardless of age or educational background. College-level traineeships and fellowships offer the handicapped student a stipend sufficient to cover full maintenance, and more. Married students receive additional allotments for dependents. At present, there are about 1500 blind college students in the United States.

Concession Stands

Purpose: To foster independent small business opportunities for the blind.

Administration: Missouri Bureau for the Blind; Vocational Rehabilitation (Blind Service); U. S. Department of Health, Education and Welfare.

Eligibility: (1) Legal blindness; (2) age 21 or over; (3) U. S. citizen; (4) preferably unemployed; (5) preferably State resident for at least one year.

Specific Services:

1. License preference to blind person for operation of vending stand concessions on Federal property or in Federal buildings.
2. Provision of suitable equipment, stock and merchandise for stand.
3. Assistance or supervision, as necessary, to assure efficient and productive operation of the business.

Refer to: Bureau for the Blind, State Office Building, Jefferson City, Missouri 65101; Vocational Rehabilitation Administration (Blind Service), Washington, D. C. 20201.

Comment to Physician: This program also includes persons with other types of major disability.

Home and Workshop Employment

Purpose: To provide a form of remunerative employment for qualifying persons unable to compete successfully in the sighted labor market.

Administration: Local sheltered workshops; National Industries for the Blind; American Foundation for the Blind; special Presidential Committee.

Eligibility: Blind worker under approved industrial program for the blind.

Specific Items:

1. Guaranteed government purchase of blind-made brooms, mops and other commodities at fair market prices.
2. Provision of necessary supervision and raw materials for product completion in sheltered workshop or at home.

Refer to: National Industries for the Blind, 1120 Avenue of the Americas, New York, New York 10036; American Foundation for the Blind, Inc., 15 West 16th Street, New York, New York 10011.

Comment to Physician: Recent controversial legislation has placed these and other sheltered workers under a modified minimum wage law.

II. Educational

Classroom Services

Purpose: To make available, on a per capita basis, special educational materials to all blind children, either in residential schools or in public schools (1956 Congressional amendment).

Administration: Local Superintendent of Schools, or Headmaster; Director of Special Education, Missouri Department of Education; U. S. Department of Health, Education and Welfare.

Eligibility: Visually handicapped child in any U. S. residential or public school.

Specific Services:

1. Books (including texts) in braille or extra-large ink print.
2. Talking Book records and Talking Book machines to play records.
3. Other special apparatus needed by the blind student.
4. Special conferences, bibliographies and publications related to the education of the blind.

Refer to: State Department of Education, P. O. Box 480, Jefferson City, Missouri 65101; Section for Exceptional Children, Office of Education, Department of Health, Education and Welfare, Washington, D. C. 20201.

Comment to Physician: These services could benefit many children not considered to be "blind" by

(Continued on page 317)

Physicians' Referral Guide (Cont'd)

parents or teachers. Excellent residential facilities are available at Missouri School for the Blind, 3815 Magnolia Avenue, St. Louis, Missouri 63110.

HOME INSTRUCTION

Purpose: To help blind persons, through home teaching by trained instructors, to function optimally in a sighted world.

Administration: Home Teachers; Missouri Bureau for the Blind.

Eligibility: (1) Legal blindness, (2) State resident.

Specific Services:

1. Braille instruction.
2. Typing instruction.
3. Activities of Daily Living instruction (e.g., telephone dialing, identification of clothing and currency, and so forth).
4. Limited instruction in cane travel and neighborhood orientation.
5. Handicrafts.
6. Homemaking instruction, including safety hints and use of adaptive devices and equipment.
7. Recreation instruction (e.g., games, cards, some outdoor activities).
8. Up-dating of information relative to adaptive devices, library services, special legislation.
9. Provision of Talking Books, other communication aids.

Refer to: Bureau for the Blind, State Office Building, Jefferson City, Missouri 65101.

Comment to Physician: Economic status of the individual is not a factor in this program. The elderly and newly-blinded may be particularly responsive to this variable, personalized approach.

LIBRARY SERVICES

Purpose: To provide, without charge, a wide range of world literature professionally prepared for the blind.

Administration: Regional libraries for blind; Library of Congress.

Eligibility: (1) Legal blindness, (2) U. S. resident.

Specific Services:

1. Loan of braille books and magazines.
2. Loan of Talking Book records covering several thousand titles.
3. Loan of Talking Book machine, and machine repairs as needed.
4. Loan of Talking Books recorded on magnetic tape (borrower must furnish own playback machine).
5. Sheet music in braille or large-type.

Refer to: The Library of Congress, Division for the Blind, Washington, D. C. 20540; Wolfner Library for the Blind, 3844 Olive Street, St. Louis, Missouri 63108.

Comment to Physician: Talking Book and similar programs are invaluable in reducing the information void that is one of the most malignant sequelae of blindness. Congressional legislation recently extended the Talking Book services to persons with other types of major physical impairments.

Although there is extensive literature about special services, agencies and other resources available for the visually-handicapped, the author has compiled this first single reference source to which the physician can turn in advising his patient. The familiar basic services according to category are presented in outline form, plus other information pertinent to these patients. An expanded version of this paper will appear later in book form. Doctor Wheeler is Instructor in the Section of Physical Medicine and Rehabilitation at the University of Missouri Medical Center.

CORRESPONDENCE COURSES

Purpose: To provide, by mail, quality educational courses for the blind.

Administration: Hadley School; local schools or universities.

Eligibility: Legally blind citizen, any country.

Specific Items:

1. Large selection of accredited courses, 5th grade through high school, on record or in braille.
2. Selected college-level courses.
3. Standard and practical foreign language courses.
4. Special tutorial service, either braille or tape.

Refer to: Hadley School for the Blind, 700 Elm Street, Winnetka, Illinois 60093.

Comment to Physician: Provides both academic and vocational courses, either for official credit or for pleasure. Hadley will coordinate program through local school, if desirable. All services and loaned materials are available without charge. Your certificate of legal blindness is required only for initial registration.

III. PSYCHO-SOCIAL

COUNSELING

Purpose: To assist parents of blind children, physicians and other concerned persons in meeting the particular needs of those children.

Administration: Missouri Bureau for the Blind; State Division of Welfare, Department of Public Health and Welfare.

Eligibility: A State resident desiring information relative to blind children.

Specific Services:

1. Individual counseling of parents, physicians or other interested persons.
2. Distribution of literature describing educational or other services available to the young blind.
3. Parental help in availing themselves of other existing resources.

Refer to: Local County Welfare Office; Division of Handicapped Children and Youth, Office of Education, U. S. Department of Health, Education and Welfare, Washington, D. C. 20201.

Comment to Physician: The experienced counselors in this program can be of great assistance in guiding the congenitally blind child and his parents. Early parental contact with these counselors is strongly advised.

IV. FINANCIAL

SOCIAL SECURITY

Purpose: To permit, by fact of blindness, certain Social Security privileges not usually accorded to other persons, either well or disabled.

Administration: Local Social Security representative; State Social Security Office; U. S. Department of Health, Education and Welfare.

Eligibility: (1) Legal blindness,* (2) U. S. citizen, (3) has designated quarters of work credit under Social Security regulations.

Specific Items:

1. Disability payments to blind child, if qualified parent is disabled, retired or deceased.
2. If blind before age 31, needs only qualifying credit of one year of work for every two years after age 21.
3. If blind before age 24, work credit for six of last 12 calendar quarters before blindness satisfies eligibility rules.
4. If blindness prevents working after age 55, disability payments may be paid for those idle months.
5. Work credit account is "frozen" at onset of blindness, regardless of present or subsequent work history, i.e., future computations will never be based on lesser qualifications than those held at the time of freezing.

Refer to: Local Social Security Office; Social Security Administration, District Office, 113 West Miller, Jefferson City, Missouri 65101.

Comment to Physician: Total disability is determined only after consideration of physical and emotional status, age, education and vocational background. Unlike the Veterans Administration and life insurance agencies, Social Security does *not* consider blindness to be presumptive evidence of disability. Therefore, the employed blind persons will be most immediately concerned with only the freeze provision.

TAX RELIEF

Purpose: To provide a degree of income tax relief for the blind taxpayer in order to compensate for certain unusual expenses related to his blindness.

Administration: State and Federal Income Tax Service.

Eligibility: (1) Legal blindness, (2) qualified U. S. taxpayer.

Specific Items:

1. Exemption of additional $600 for blind taxpayer or blind spouse, regardless of age, income or other deductions or exemptions.
2. Deduction, as medical expense, full cost and maintenance of guide dog.
3. Deduction, as medical expense, cost of sending taxpayer's blind child to public or private institution for special instruction, including room and board if part of tuition.

Refer to: District Director of Internal Revenue, 1114 Market Street, St. Louis, Missouri 63101; Director of Internal Revenue, Washington, D. C. 20224.

Comment to Physician: Each year, the blind taxpayer will need a physician's certificate of blindness, one original and a carbon copy for each Federal and State submission.

AID TO THE BLIND

Purpose: To provide relief for the needy blind in the form of direct financial assistance from public funds.

Administration: County Welfare Office; State Division of Welfare, Department of Public Health and Welfare; Social Security Administration; U. S. Department of Health, Education and Welfare.

Eligibility: (1) Vision 5/200 or less or a visual field limited to 5%; (2) age 18 or over; (3) State resident for five of last nine years; (4) not inmate of public institution; (5) no tuberculosis or mental illness; (6) not maintained in private institution; (7) no relative in State able to provide support; (8) not receiving Aid to Dependent Children, Old Age Assistance or Aid to Permanently and Totally Disabled; (9) total value real and personal property less than $1500, or $2500 with spouse, excluding present home and furnishings; (10) others.

Specific Item:

Maximum payments of $80 monthly.

Refer to: Local County Welfare Office; Division of Welfare, State Office Building, Jefferson City, Missouri 65101.

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* See Definition II, Table 1.

Comment to Physician: Blind persons not eligible for this program may be eligible for Missouri Blind Pension. Certificate of blindness required from "ophthalmologist, physician skilled in eye disease or designated optometrist."

BLIND PENSION

Purpose: To provide financial assistance for some blind persons not qualifying under the Aid to the Needy Blind law.

Administration: County Welfare Office; State Division of Welfare, Department of Public Health and Welfare.

Eligibility: (1) Totally blind or no more than light perception; (2) age 18 or over; (3) State resident past ten years (waived if blinded in State and remains there); (4) not eligible for Aid to the Blind; (5) agrees to correction of blindness, when possible, if younger than 75; (6) others.

Specific Item:

Maximum payment of $80 monthly.

Refer to: Local County Welfare Office; Division of Welfare, State Office Building, Jefferson City, Missouri 65101.

Comment to Physician: Here, there could be some quibbling over this strict definition of qualifying, legal blindness.

V. MOBILITY

ORIENTATION AND TRAVEL TRAINING

Purpose: To facilitate independent mobility through specialized training in techniques of spatial orientation and modes of travel.

Administration: Various agencies.

Eligibility: (1) Visual handicap, (2) desire to increase independence.

Specific Services:

1. Training designed to increase awareness and interpretation of incoming nonvisual sensory stimuli.
2. Training in proper techniques for travel with orthopedic cane or Hoover cane.
3. Acquisition of trained dog guide, and supervised training period with same.

Refer to: Bureau for the Blind, State Office Building, Jefferson City, Missouri 65101; Seeing Eye, Inc., P. O. Box 375, Morristown, New Jersey 07960.

Comment to Physician: There are several sources for instruction in mobility techniques about which the Bureau has further information. The Seeing Eye referral is a personal recommendation.

VI. MEDICAL

EYE CARE

Purpose: To prevent or correct blindness of the medically indigent applicant.

Administration: Local County Welfare Office; State Division of Welfare; Department of Public Health and Welfare.

Eligibility: (1) Missouri resident; (2) medically indigent by local Welfare criteria; (3) significant eye disease as determined by designated ophthalmologist.

Specific Services:

1. Medical evaluation of eye condition.
2. Eye surgery as indicated.
3. Eye medicines as indicated.
4. Follow-up eye examinations in regional clinic.

Refer to: Local County Welfare Office; State Division of Welfare, State Office Building, Jefferson City, Missouri 65101.

Comment to Physician: Despite Medicare, this service is still particularly suited to qualifying elderly patients with cataracts or glaucoma.

VII. MISCELLANEOUS

INSURANCE WAIVERS

Purpose: To waiver premium payments on life insurance policies covering certain persons who have become legally blind.

Administration: Individual insurance companies, Veterans Administration, U. S. Treasury Department.

Eligibility: (1) Legal blindness, (2) policy disability waiver clause in force at time of onset of blindness.

Specific Items:

1. Complete waiver of all future premium payments on applicable life insurance policies owned by blind person after satisfying company's criteria for blindness.
2. Waiver of premiums on veteran's "G.I. insurance" after qualifications are met.
3. Retroactive rebate of premiums paid on applicable policy after established date of onset of blindness.

Refer to: Applicable insurance company; Veterans Administration, Department of Medicine and Surgery, Blind Rehabilitation, Washington, D. C. 20420.

Comment to Physician: Most companies require a six-month waiting period after given date of onset of blindness before reviewing case. The Veterans Administration also requires complete physical examination of applicant by staff physicians at a VA medical center. All companies consider legal blindness to be presumptive evidence of 100% disability, regardless of employment or other activities; this presumption is not made by other agencies. Pertinent general information is offered by Blinded Veterans Association, 2430 Pennsylvania Avenue, N.W., Washington, D. C. 20037.

VOTING AID

Purpose: To assist visually-handicapped voter in casting his indicated ballot.

Administration: Local election officials; U. S. Department of Justice.

Eligibility: (1) Visually-handicapped, (2) qualified voter.

Specific Services:

1. Acceptance of ballot cast in manner prescribed by state law (Missouri statute allows assistance from "any person chosen by him from any of the legal voters of the county.")

Refer to: Local election officials.

PEDESTRIAN PROTECTION

Purpose: To facilitate safe and unrestricted pedestrian travel for the blind.

Administration: Individual agency concerned, local judiciary.

Eligibility: Visual acuity not specified.

Specific Items:

1. Dog guide entitled to all accommodations, facilities, public conveyances and places of public accommodations subject to such reasonable regulations as may be established by the agency operating such public conveyance or accommodation and no extra fee is to be charged. Dog must be properly muzzled (1959 statute).
2. Right-of-way statute requires complete halt of all intersection traffic until blind pedestrian, with or without special cane or dog guide, is safely across street.
3. "Cane" statute prohibits use of a white cane or special guiding canes by anyone except a blind person.

Refer to: Local law enforcement agency.

Comment to Physician: A survey listing of all individual state statutes is available from the Seeing Eye, Inc., P. O. Box 375, Morristown, New Jersey 07960.

VIII. RELIGIOUS

INSPIRATIONAL MATERIALS

Purpose: To provide Biblical and related materials to visually-handicapped persons of all faiths.

Administration: Various private agencies.

Eligibility: Usually, statement of visual impairment is sufficient.

Specific Items:

1. Standard Bibles, scripture groupings and similar basics, multi-lingual, on tape, record, braille, or large-type.
2. Variety of inspirational materials for all ages; all media.

Refer to: Christian Record Braille Foundation, 444 South 52nd Street, Lincoln, Nebraska 68506; Xavier Society for the Blind (Catholic), 154 East 23rd Street, New York, New York 10010; Jewish Braille Institute of America, Inc., 48 East 74th Street, New York, New York.

Comment to Physician: Pax, q.s.

Acknowledgement: The author wishes to express appreciation for the invaluable technical and editorial assistance received from Dr. Kenneth P. Wheeler, general practitioner, Fredericktown, and from Mr. V. S. Harshbarger, Chief, Missouri Bureau for the Blind, Jefferson City.

BIBLIOGRAPHY

1. Fact Book: Estimated Statistics on Blindness and Vision Problems; National Society for the Prevention of Blindness, New York, 1966.

2. Wheeler, P. C.: Blind Patient and the Physician Survey Each Other. Missouri Medicine 63:280-285, 1966.

3. Bauman, Mary K. and Yoder, N. M.: Adjustment to Blindness—Reviewed. Springfield, Ill., Charles C Thomas, 1966.

Physicians and nurses must seek ways of establishing broader professional communication in order to satisfy the public's rising demand for more comprehensive, personalized medical care. This was an area of major agreement at the Third National Conference for Professional Nurses and Physicians held recently at Coronado, California. The conference, jointly sponsored by the American Nurses' Association and American Medical Association, brought together 47 selected representatives of each profession for face-to-face talks about the needs of the sick person. Representatives from Missouri were Vernon E. Wilson, M.D., Dean and Director of the University of Missouri School of Medicine, and Marilyn Rubin, R.N., Instructor at Lutheran Hospital in St. Louis.

IAN M. THOMPSON, M.D., GILBERT ROSS, JR., M.D. *and*
ERNEST E. MCCOY, M.D., *Columbia*

Urolithiasis in Childhood: The Significance of Oxaluria

Case Reports

Six case reports of stones in the urinary tract are presented to illustrate the paucity of calculi seen in the average pediatric urological unit and to reaffirm that most such stones occur in conjunction with stasis, infection and foreign body. The authors emphasize the need for prompt consideration of primary hyperoxaluria in the pediatric patient with calculus disease and suggest that surgical intrusion upon parenchymal oxalate stones may produce further renal functional depletion. Doctor Thompson is Chief of the Section of Urology, Department of Surgery, and Dr. Ross is Associate Professor of Urology at the University of Urology at the University of Missouri School of Missouri School of Medicine. Dr. McCoy was Associate Professor of Pediatrics at the time this paper was prepared. He is now a member of the faculty at the University of Virginia School of Medicine.

Calculus disease of the urinary tract is rather infrequently seen in children, as attested by the paucity of cases reported in our medical literature. Six children with stones in the urinary tract have been seen at the University of Missouri Medical Center between July, 1960, and November, 1966. During this period, there have been approximately 700 pediatric urological admissions and many consultations among a total of 7,214 admissions to the entire children's unit.

In reviewing our material, it became apparent that the etiologic factors precipitating stone formation in our patients were not dissimilar to those previously reported. Although the clinical circumstances were diverse, five of the six children developed calculus disease as a consequence of stasis, infection or foreign body, while the sixth child had a distinct metabolic abnormality.

Case Reports

Cases # 1 and # 2. FOREIGN BODY. Two seven-year-old boys were found to have bladder stones some months after the completion of staged hypospadias repair. Although the presenting complaints in these two children were totally different, the architecture and function of the urinary tract were deemed entirely normal, as were determinations of the serum calcium, phosphorus and electrolytes in both instances. Proteus was obtained on urine culture from one child, and both stones removed by suprapubic cystolithotomy were composed of mixed calcium phosphate and magnesium ammonium phosphate. The stones were postulated to have derived from calcareous deposition upon the cystotomy catheter employed at the time of hypospadias repair.

Case # 3. MECHANICAL OBSTRUCTION. A six-year-old Negro boy had a two-year history of repeated attacks of severe right sided pyelonephritis. Urological evaluation showed an anatomically and functionally normal lower and left upper conduit system, but urographic studies demonstrated multiple stones within the pyelocalyceal system of the right kidney and severe intrarenal hydronephrosis due to ureteropelvic junction obstruction. Proteus mirabilis was cultured from bladder urine and, subsequently, from the right renal parenchyma. Multiple determinations of the serum calcium and phosphorus were normal. At the time of operation, a long intrinsic stricture of the ureteropelvic junction was identified and a nephrectomy performed because of the severe attentuation of the renal cortex. The stone was composed of calcium phosphate and magnesium ammonium phosphate.

Cases # 4 and # 5. NEUROVESICAL DYSFUNCTION. The first of the two children, with stones related to functional obstruction attending disorders of the sacral cord, was admitted in November, 1960, at the age of three with sepsis and azotemia. There was an initial hyperchloremic acidosis with a BUN of 60 and a creatinine of 2.5 mg%. Radiographic studies delineated an absent sacrum, multiple vertebral anomalies, bilateral hydronephrosis and hydroureter with right ureteral reflux. There were stones located in the left lower ureter and left upper pole calcyx. A bilateral single stoma cutaneous ureterostomy and ureterolithotomy was performed after laboratory values had returned to near normal on six weeks of catheter drainage. The left calyceal stone gradually increased in size and necessitated a nephrolithomy in 1963. Both stones were again composed of mixed phosphates.

The second child was ten years of age when first seen with repeated attacks of pyelonephritis. He had a small myelomeningocele, closed at the age of three, and a tubeless cystostomy at age five because of difficulty in voiding.

The cystostomy gradually contracted to form a small fistula, and the child was voiding from below when first seen. Initial studies showed bilateral hydronephrosis, vesicoureteral reflux and a large bladder stone. The serum creatinine and calcium were normal and pseudomonas was obtained on urine culture. The patient's management consisted of suprapubic cystolithotomy and closure of the fistula with subsequent transurethral resection of the vesical neck. The bladder calculus was composed of mixed calcium phosphate and magnesium ammomomium phosphate.

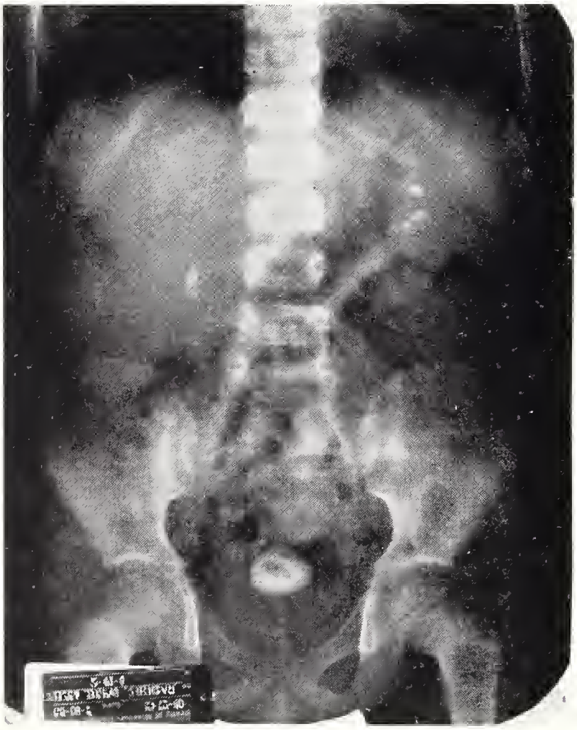

Fig. 1

Case # 6. METABOLIC ABNORMALITIES. The sixth patient was a seven-year-old-boy first seen in 1961 for recurrent bouts of painless hematuria. The initial excretory urogram showed bilateral renal calculi and a bladder stone (Fig. 1). The serum creatinine was normal and the urine was negative on microscopic examination and culture. Bone X-rays, multiple determinations of the serum calcium and the tubular reabsorption of phosphate were normal. The rarity of hyperparathyroidism and our inability to establish a diagnosis led to studies of urinary oxalate excretion; serial 24-hour determinations ranged from 70.5 to 115.6 mg with oxalate creatinine rations of .165 and .289. Both values substantially exceeded normal values for children which average 6-45 mg daily with ratios of approximately .015. A diagnosis of primary hyperoxaluria was proposed and, in September, 1961, a cystolithotomy was performed with the removal of a light brown calcium oxalate stone. A controlled oxalic acid diet and pyridoxol administration reduced excretion by no more than 25%, and attempts to administer high doses of glutamic acid and pyridoxine were poorly tolerated and ineffective.

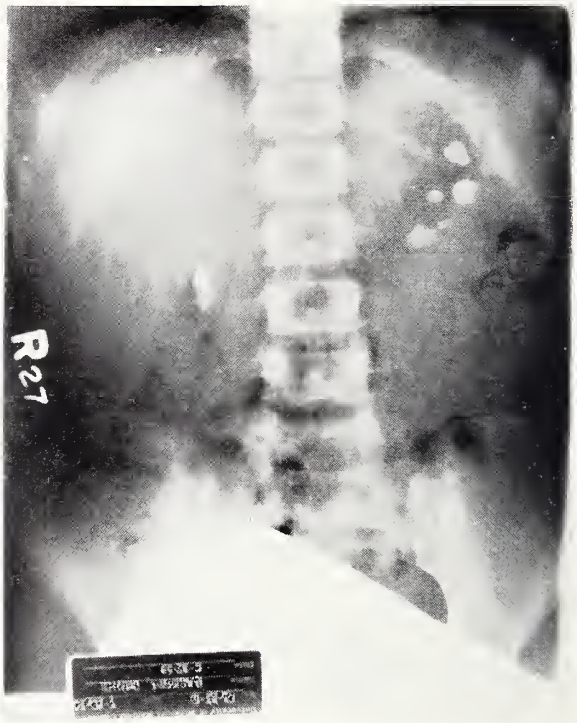

Fig. 2

By 1963, renal function had gradually deteriorated with a creatinine clearance of 45 L/24 hrs and the renal calculi had gradually increased in size

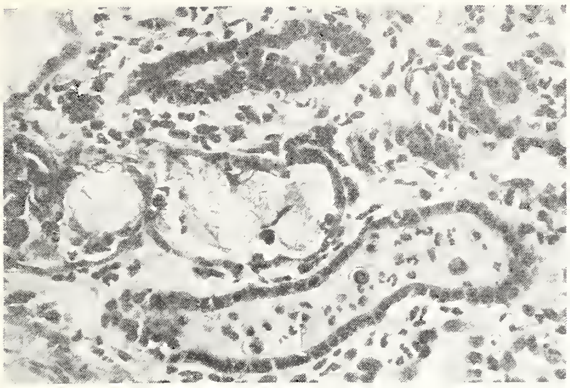

Fig. 3

(Fig. 2). A right nephrolithotomy with removal of a light brown calcium oxalate stone was performed in December, 1963. Because of repeated episodes of left flank pain, some 40 encysted stones were removed through multiple small nephrotomies from the left kidney in December, 1964. Histologic sections showed an inflammatory infiltrate, periglomerular fibrosis and crystalline casts which were refractile in polarized light (Fig. 3). Oxalate crystals were not identified in sections of rib, muscle, fat or lymph node removed for study.

Inexorable deterioration in renal function continued and in February, 1966, the patient was admitted with ascites, edema, shortness of breath and oliguria. The BUN was 230 mg% and the serum calcium 7.4 mg%. After a course of peritoneal dialysis, the patient was transferred to the University of Colorado Medical Center where he received a cadaveric renal homotransplant on March 29, 1966. Ten days of postoperative oliguria occurred and this was postulated to represent either early rejection or acute tubular necrosis. Assuming it to be the former, it was managed with increased immunosuppressive therapy, local radiation and hemodialysis. On May 26, 1966, a bilateral nephrectomy, liver biopsy and splenectomy were performed with subsequent histologic study showing oxalate crystals in the kidneys, but not in the other organs.

In an effort to reduce oxalate excretion, the boy was placed on calcium carbimide, a potent inhibitor of aldehyde dehydrogenase. Calcium carbimide in a dosage of 25 to 37.5 mg/day produced a significant fall in oxalate excretion which approached the upper limits of normal with a less profound reduction in oxalate/creatinine ratios.[1]

In spite of calcium carbimide and immunosuppressive therapy, renal function gradually deteriorated with a reduction in creatinine clearance from 35 cc/min in May to 12.5 cc/min in August.

The patient remained severely hypertensive and Cushingoid throughout most of his post-transplantation course. In October, the creatinine had risen to 3 mg% and an open renal biopsy showed calcium oxalate crystals in the tubules of the transplanted kidney. The wound separated and remained open until the patient expired with renal insufficiency at the University of Missouri Medical Center on November 26, 1966.

The transplanted kidney obtained at autopsy weighed 130 grams. The kidney grossly was relatively normal and all anastamoses were patent. Microscopically, there were abundant crystalline casts in the tubules. The glomeruli were well preserved and there were relatively few immunocytes infiltrating the kidney. It appeared that rejection had played a relatively minor role in the terminal renal insufficiency (Fig. 4).

DISCUSSION

Five of our cases are representative of the usual clinically evident examples of stone formation in children. They are most often associated with obstruction, stasis, infection and foreign body.[2] Although perhaps the least common of the recognized etiologic factors involved in stone formation, metabolic defects represent an unparalleled opportunity for investigation.

Primary hyperoxaluria has been construed to be quite uncommon although the increasing number of cases suggests that the condition may be more prevalent than previously considered.

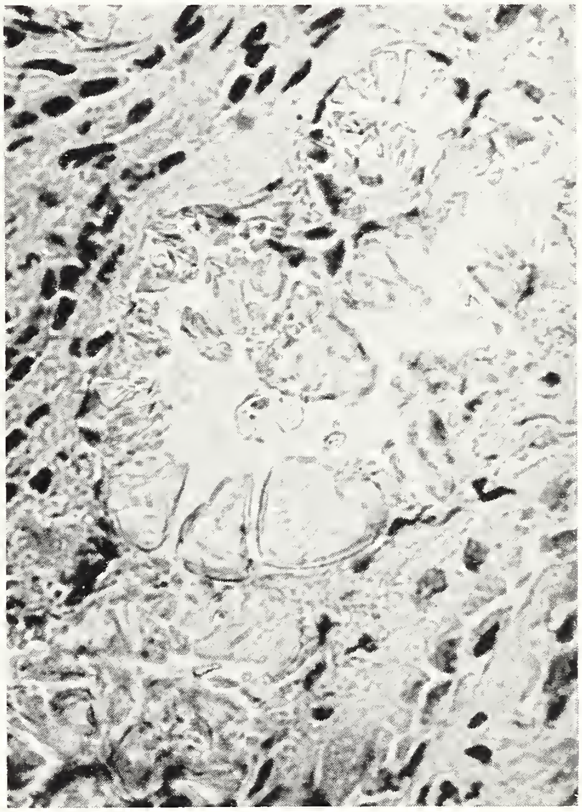

Fig. 4

It is an inherited disease usually transmitted as an autosomal recessive and bears no relationship to ordinary calcium oxalate nephrolithiasis. Its clinical manifestations have ranged from the infant dying of renal failure to the relatively asymptomatic adult.

Recent metabolic studies have been reviewed and depict a primary disorder in glyoxalate metabolism with excessive conversion to oxalate as the fundamental cause of the defect.[3] There seems to be general agreement that the only sources for oxalate in the urine are ascorbic acid, contributing about 40% of the total urinary oxalate, and glyoxalate which is primarily derived from the oxidation of glycine. Other precursors of glyoxalate include glycolate and, probably, gamma-hydroxy-alpha ketoglutarate which, in turn, might link glyoxalate metabolism to the Kreb's cycle. Fig. 5 diagramatically represents some of the pathways involved and the role of diminished tubular reabsorption in hyperoxaluria.

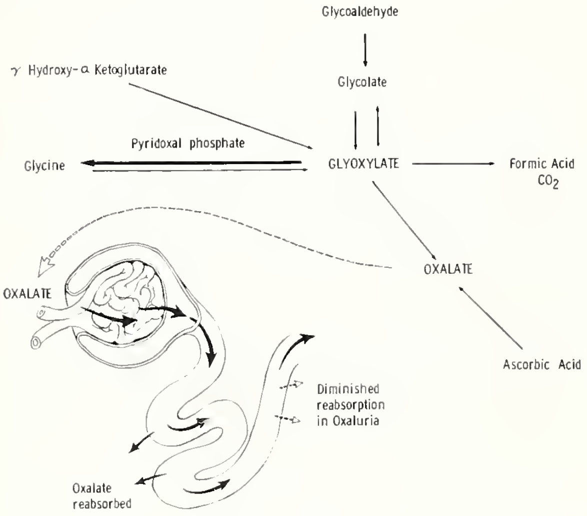

Fig. 5

In hyperoxaluria, the urine oxalate derived from ascorbic acid remains constant, but its fractional contribution falls because of the increase in total urine oxalate. The total quantity arising from glycine increases, but its fractional contribution remains constant. At least half or more of the total is a derivative of other sources presumably glycolate.

Any postulations regarding the precise site of a metabolic block must conform to the observations obtained using radioactive glycolate and glyoxalate. In both instances, there is reduced conversion to CO_2 and glycine and an increase in the urinary oxalate, glycolate and glyoxalate in patients with hyperoxaluria. The normal conversion of glyoxalate to glycolate eliminates a disturbance in this pathway and circumstantially implicates a block in the conversion of glycoxalate to glycine due to specific enzymatic depletion.[4, 5]

A second and important consideration is the distinct reduction in tubular reabsorption of oxalate observed in patients with hyperoxaluria. Slightly elevated serum oxalate levels suggest increased endogenous production of oxalate coupled with diminished reabsorption as a joint disturbance producing excessive levels of oxalate in the urine.[6]

From a therapeutic point of view, an inhibitor of the synthesis of oxalate would be a panacea if initiated early enough in the disease. Unfortunately, attempts to abort the overproduction of oxalate by administration of glutamate, which provides amine groups for transamination, or pyridoxine, a prerequisite of pyridoxal phosphate, the coenzyme in the transamination of glyoxalate to glycine have failed to yield consistent reductions in urinary oxalate, except in those rare instances of clinical pyridoxine deficiency.

Regardless of the location of the metabolic block, an agent that would depress oxalate synthesis might prove extraordinarily helpful. Calcium carbimide[*] is an inhibitor of aldehyde dehydrogenase used in the management of alcoholism, but is less toxic and more rapidly excreted than Antabuse. The agent is believed to inhibit the conversion of glycoaldehyde to glycolate reducing oxalate excretion. Since this is postulated to be the major pathway for oxalate accumulation in primary hyperoxaluria, the use of the agent appears to be rational.[1]

In the present case, abundant oxalate deposits were noted at autopsy in spite of the reduction in oxalate excretion produced by calcium carbimide. Although a variety of uremic states may be characterized by calcium oxalate crystals in the kidney, the abundance of crystals in the final histologic sections of the transplanted kidney would tend to implicate primary hyperoxaluria, rather than simple renal insufficiency, as the source of the oxalate crystals.[7]

Our patient presented with the typical clinical picture of primary hyperoxaluria, and future deterioration of renal function was predicted when the diagnosis was made. Although the vesicolithotomy appeared necessary, in retro-

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[*] Temposil—Lederle.

(Continued on page 334)

ROBERT E. FROELICH, M.D., ***Columbia and***
ROBERT S. KIMPTON, M.Ed., ***Versailles***

An Experience in Improving Medical Writing: A Staff and Student Workshop-Seminar

CURRENT APPROACHES TO THE TEACHING OF MEDICAL WRITING apparently fall into two general types: a half-lecture, half-workshop combination[1] and a workshop based upon assigned compositions.[2] Both of these techniques utilize to some degree what has been called the teaching-editorial service.[1] At the University of Missouri School of Medicine, the Department of Medical Communication, in cooperation with Medical Publications, has made an attempt to shift emphasis away from either of these methods. The current approach consists of a seminar-workshop with virtually no lectures or assigned writing. The attempt is to encourage a natural social interaction to grow spontaneously from editorial conferences on material actually in preparation for publication. We will present our initial experience with what may best be called "a non-credit seminar in writing."

This approach is a logical outgrowth of the question, "Why does the medical profession need help with writing to a greater degree than do, for example, lawyers or teachers?" Virtually every member of the medical profession has been exposed to adequate English classes. Yet, if we are to judge by the plethora of articles and editorials on the subject, some inadequacy exists. It appears that this inadequacy is a result of lack of interest. While the necessity of communicating medical ideas is widely recognized, writing them is almost universally considered to be sheer drudgery. Dispelling the idea that writing is an onerous task became one of the chief goals of this experiment. Eliminating all lectures and assigned papers seemed a logical way to accomplish this goal.

Formal courses in English composition have somehow missed their target in medically-oriented individuals. The hope is that we may use the technique described below to slip through psychologic barriers to learning the formalities of English usage.

TECHNIQUE

The seminars included eight consecutive weekly group meetings of one hour each and individual editorial conferences of a primarily teaching nature. Participation was open to any medical student or any member of the Medical Center staff. If a participant had no work pending publication, although most did so, a recently published paper was dissected. The full time of Mr. Kimpton was given to guiding the group meetings and individual conferences. His background for handling the conferences includes years of experience in providing editorial aid to medical writers as summer interludes in high school teaching of sciences—not English. Announcements of the workshop stressed, "This is not a course in high school English."

In the non-credit aspect of the approach lies one of the strong points: no compulsion is felt to attend or participate to any certain degree. Instead, there is complete freedom to react and identify in whatever manner best suits each individual. One result is, admittedly, somewhat spotty attendance: from an enrollment of 27 during June and July of 1966, average participation in the weekly group sessions was about ten persons. A concomitant result of the completely voluntary nature, however, is a gratifyingly high level of spontaneity and enthusiasm. Almost everyone who attends will become an active participant. While a few appear promptly for virtually every meeting, most others alternate in much the same nature as does the membership present at meetings of any hobby-inspired group. This is, indeed, the desired atmosphere: a voluntary gathering to meet a challenge.

The conferences are teaching devices in themselves. They are subordinate to the group discussion of ideas; and from these conferences arise most ideas for the weekly meetings—more ideas, in fact, than can be worked into the time available. Diligently avoided is degeneration of

Dispelling the idea that medical writing is an onerous task was one of the chief goals of a workshop-seminar held recently at the University of Missouri Medical Center. Conducted for medical students and faculty, the workshop was successful in stimulating interest in scientific writing. The authors include in this paper a list of references and suggested reading that should be helpful to all physician-writers. Doctor Froelich is head of Medical Communication and Assistant Professor of Psychiatry at the University of Missouri School of Medicine. Mr. Kimpton, who is a teacher at Morgan County R-II High School in Versailles, provides editorial assistance to medical writers during the summer.

the individual conference into a mere editorial service. This problem gives far less difficulty than was anticipated. Indeed, there is almost invariably a stimulating interchange of ideas which can be brought naturally and easily into the next group interaction.

In keeping with the desire to provide a student-centered learning experience rather than an outwardly directed one, no text was used by the group. Further, no suggested reading list was provided until the last meeting. A rather successful early attempt was made, however, to awaken style interest through familiarity with one particular author, Bernstein.[4-7] In fact, a rather strong statement was made to the group as a challenge: "If you start to read 'Watch Your Language'[4] and don't find it sufficiently entertaining to finish it, nothing we will do in this workshop will interest you." (A good number of participants did report finishing the book.) Other items of the short reading list are found in the references.[4-10]

CONTENT

During the summer of 1966, particularly animated discussions were held upon both points of philosophy and style, such as:

"What is the place of humor in scientific writing?" (Happily, almost past seems to be the day of the deathly serious medical writer who is afraid to let any wording show that he has a sense of humor, although a few do persist. Occasional, naturally humorous statements, only when set off by a perfectly polished whole, appear to be the current standard.)

"Who will publish it?" (We really should meditate upon this question before we write it; fit the style of the desired journal.)

"Where and how do we start?" (Anywhere, just *start*. Although some still cling lovingly to the bosom of "begin at the first," they don't finish enough articles to be statistically significant. The write-it-in-bits-and-paste-it-together-later men are voluminously convincing.)

"How does one provoke a medical student into production of a good publication?"

"When, 'in the armamentarium of the physician' does the item of standard terminology become a cliché?" (Usage dictates: "Finger on the pulse" may be an acceptable phrase in describing an emergency room scene, but it is hardly appropriate in describing the AMA before a congressional hearing.)

"What is the place of the 'potboiler' (the rephrased previous publication or review article) in medical literature?" (How far shall we go to avoid perishing because of failure to publish?)

"When does a reference to the literature go into the past tense?"

"What is a good dictionary?" (Probably a Merriam-Webster to start with. An unbelievably large number of bad dictionaries are in use by professional people.)

Group interaction produced a summary of points of technique most troublesome to participants. The four items listed below, in order of frequency, are surprisingly universal in their application:

1. The incorrect tense is used in referring to the present study or in referring to the literature. Incorrect use of the past tense in referring to published works (in any but the historical sense) will be minimized by the rationale that any scientific finding can be duplicated, given the same conditions and, therefore, exists in the present. The somewhat ridiculous idea of a cookbook recipe given in the past tense was thought to be a useful analogy. Tense switches in medical references are the most universal problem.

2. There is a tendency to put too much between the subject of a sentence and the verb. While no definite rule can be set up, it is agreed that any time three or four lines of typescript intervene between these parts of speech, communication suffers.

3. Sentences contain long strings of prepositions. Again, consensus is that no definite number can be established as a danger point; however, reading the article aloud may be most

helpful. Any time it starts beating out a rhythm, stop! Reading aloud may, in fact, be presented as the near panacea for diverse writing problems. In answer to the question, "To whom shall I read?," some interested person is advisable but not at all indispensible. A bit of practice reading to an empty room soon develops a good and satisfying feeling of when a passage flows and when it falters and limps.

4. Articles are not sufficiently polished before submission. In this regard, it was brought out that some smaller journals published by local organizations do a real disservice to budding medical journalists, especially medical students, when they publish works which are less than nicely polished. After such publication, the author may feel that he is a finished writer when it is more nearly true that he is finished as a writer, if he allows such efforts to become his standard. It also is felt that a similar disservice is done by larger journals which accept a rough article because it does have something to say. Their staffs polish the article, but not in a way that aids the writer's development. Unresolved is the dilemma of the deadline versus the essential "cooling off time" as a part of polishing. The obvious answer of starting sooner was felt to be desirable but highly unrealistic!

Student Participation

An always unanswered problem, judging from the literature, is in getting the medical student to take full advantage of this type of aid. The difficulty may be at least partially met, as in this case, by arranging certain encouragement from sponsors of summer fellowships culminating in publication. While there may be some noticeable lack of enthusiasm on the part of these fellowship students at the outset, eventual tangible accomplishment appears to overcome it. Undoubtedly the key, as in all learning situations, is readiness. The fellowship student feels publication to be significantly more imminent than do most students; therefore, it is not difficult to envision a fellowship program in which some such group participation would be an integral part of the fellowship.

Conclusion

While a significant number of papers was readied for publication, it is premature at this writing to judge the learning that took place. If we gauge it by the fact that interest was created in medical writing, however, the workshop-seminar was a decided success. Based upon the type of effort presented, other programs of a similar nature may be worthy of consideration.

References and Suggested Reading List (With Comments)

1. Zisowitz, M. A.: Teaching Medical Students and Physicians to Write. J. Med. Educ. 39:481-84, 1964.

2. DeBakey, Lois: Instruction in Scientific Communications. J. Med. Educ. 40:928-30, 1965.

3. Style Book and Editorial Manual, prepared by AMA Division of Scientific Publications, John H. Talbott, M.D., Director. (50 cents to members of AMA. Very helpful, particularly on handling of galley proofs and page proofs.)

4. Bernstein, Theodore M.: Watch Your Language. Manhasset, New York, Channel Press, 1958. (About $2.00; a must for entertaining reading; an easy-to-use, liberal authority on style.)

5. Garst, R. E. and Bernstein, Theodore M.: Headlines and Deadlines. New York, Columbia University Press, 1961. (The best authority on handling proofs—probably tells more than most medical writers want to know on the subject.)

6. Bernstein, Theodore M.: The Careful Writer. New York, Athenium, 1965. [About $8.00; for those who have sampled and liked Mr. Bernstein; the busy man's Fowler (cf.); large type, fairly easy to use; lacks Fowler's helpfully detailed table of contents.]

7. Bernstein, Theodore M.: More Language That Needs Watching. Manhasset, New York, Channel Press, 1962. (About $2.00; follows the general rule that sequels may be disappointing; still entertaining to the real Bernstein fan.)

8. Fowler, H. W: Modern English Usage. Oxford, Clarendon Press, 1965. [About $5.00; the ultimate, if conservative, authority on style; easy to use (if one has good eyes: small print, exhaustive coverage); probably worth its price for three short articles alone: "Sociologese," "Irrelevant Illusion" and "Hackneyed Phrases." The very sophisticated writer should study "Cannibalism (of words)" and then try to forget it!]

9. Parker, W. R.: The M.L.A. Style Sheet. Washington, D. C., Modern Language Association of America, 1951. (50 cents, very concise, disagrees with many of the above—for those who seek support!)

10. Critchlow, Horace: The Punctuator. Richmond, Virginia, Evans Specialty Company. (About $2.00; slide-rule type punctuation aid.)

The reading list is in approximate order of suggested usefulness to a group of the type described.

JEAN F. LEGLER, M.D., JAMES E. CROCKETT, M.D. *and*
J. TENBROOK KING, M.D., *Kansas City*

Acid-Base Changes and Cardiac Resuscitation

The introduction of closed chest cardiac massage[1] into clinical medicine heralded a new era in emergency cardiac resuscitation. Thoracotomy and direct cardiac massage were no longer necessary in cardiac emergencies. The techniques of closed chest cardiac massage, electrical defibrillation and mouth-to-mouth artificial respiration have recently been reviewed in several excellent articles and monographs.[2-5] Several series have appeared in the literature reporting survival rates of 5% to 35% among cardiac arrest patients.[6-12] An average figure is perhaps 25% survival.[3]

As more experience has been gained in these emergency procedures, there has been an increasing awareness of the importance of acid-base changes during periods of circulatory arrest. Indeed, it has been shown that acidosis itself can be a cause of cardiac arrest.[13] The importance of recognizing this fact and vigorously treating the acidosis is, therefore, self-evident.

The purpose of the present study was to document, insofar as possible, the presence and degree of acid-base imbalance in a group of patients in whom emergency cardiac resuscitation, including closed chest cardiac massage, was carried out.

Material and Methods

The patients included in the present study are from a group in whom emergency cardiac resuscitation was carried out as part of a "Code Blue" program at St. Luke's Hospital in Kansas City.[14-15] Methods of treatment included closed chest cardiac resuscitation, electrical defibrillation, artificial respiration and various medications. Whenever possible, femoral artery blood samples were drawn into a heparinized glass syringe during the time of closed chest massage. Any air bubbles were immediately expelled and the syringe capped. The blood sample was then sent to the laboratory and pH, pCO_2 and base excess were determined within 15 minutes using an Astrup type AME-1 micro electrode by Radiometer.[16] When possible, serial samples were drawn at varying intervals in order to evaluate the course of the patient from the acid-base point of view.

There were a total of 25 patients in whom acid-base data were available. These were divided into three groups: (1) Four patients with successful resuscitation; (2) Nine patients in whom resuscitation was only temporarily successful; (3) Twelve patients in whom initial resuscitation efforts were unsuccessful.

There has been some recent discussion regarding proper acid-base terminology.[17-18] For the purpose of simplicity, the following terminology suggested by Baer[19] will be used in the discussion:

Acidosis—A change in respiratory or metabolic status which, if not compensated, would cause a lowering of blood pH below 7.35.

Alkalosis—A change in respiratory or metabolic status which, if not compensated, would cause an elevation of blood pH above 7.45.

Report of a study on the presence and degree of acid-base imbalance in a group of patients upon whom emergency cardiac resuscitation was performed using closed chest cardiac massage and assisted respiration with electrical defibrillation. The 25 patients were divided into three groups, which are discussed with regard to pH, pCO_2 and base excess results. In general, the results confirm the findings of metabolic and, frequently, respiratory acidosis in the unsuccessful resuscitation candidates, with lesser degrees of acidosis in those who survived. General measures for prevention of acidosis are discussed, also.

Doctor Legler is Instructor in Cardiology at the University of Missouri School of Medicine at Kansas City General Hospital and Medical Center. Doctor King is Director of the Cardiovascular Laboratory and Doctor Crockett is attending Cardiologist at St. Luke's Hospital.

This work was supported by a Grant-in-Aid from the Missouri and St. Louis Heart Associations.

TABLE 1—GROUP 1

Pt. #	*Age*	*Sex*	*Date and Time*	*pH*	*pCO₂*	*BE*	*Acid-Base Diagnosis*	*Comment*
1.	46	M	12-6-65 10:00 AM	7.32	50	−2	RA	Code Blue 4:20 AM. Defibrillated. No closed chest massage. Normotensive.
			12-7-65 10:00 AM	7.38	45	+1	Normal	Doing well. Survived.
2.	62	M						Gunshot wound to chest and abdomen. Surgery 1-4-66.
			1-17-66 4:30 PM	7.07	137	−1	RA	Code Blue, asystole from respiratory distress while closing thoracotomy dehiscence. Bicarb 1 amp given. Endotracheal tube put in.
			5:00 PM	7.20	89	−1	RA	Improved. Still critical.
			1-18-66 9:15 AM	7.35	62	+5	Comp. RA	Remains critical.
			1-19-66 10:00 AM	7.33	76	+6	RA	Improved.
			1-20-66 10:00 AM	7.35	68	+6.5	Comp. RA	Improvement continues. Survived.
3.	59	F	3-7-66 8:00 AM	7.21	53	−8	MA and RA	Code Blue at 7:15 AM. Bicarb 1 amp after pH sample.
			3:00 PM	7.28	59	−0.5	RA	
			3-9-66	7.32	56	+1	RA	
			3-10-66	7.36	38.5	−3	Normal	Gradual improvement. Survived.
4.	65	F	3-14-66 9:40 AM	7.32	51	−2	RA	Prior to Code Blue at 10:00 AM. Thought to be in digitalis intoxication.
			10:00 AM	7.43	42	+3	Normal	Defibrillated. No closed chest massage. Survived.

(Abbreviations used in Tables 1, 2 and 3: RA—respiratory acidosis; RAl—respiratory alkalosis; MA—metabolic acidosis; MAl—metabolic alkalosis; Comp.—compensated; BE—base excess.)

Respiratory Acidosis—pCO_2 above 45 mm Hg.
Respiratory Alkalosis—pCO_2 below 35 mm Hg.
Metabolic Acidosis—Base excess below −3 mEq/l.
Metabolic Alkalosis—Base excess above +3 mEq/l.

RESULTS

Group I. There were four patients in this group with long term survival. The lowest pH was 7.07 and the highest 7.43. Two patients revealed respiratory acidosis with the highest pCO_2 being 137 mm Hg. One revealed mild combined metabolic and respiratory acidosis, while the fourth was normal. The lowest base excess was −8 mEq/l initially in one patient, while the other three patients had a normal base excess. Individual acid-base values are listed in Table 1. Follow-up determinations are also listed.

Group II. In this group were nine patients with temporary survival, meaning the initial resuscitative efforts restored the patient to a satisfactory circulatory state. However, the patients expired at some later time.

At the time of the initial blood sample, there were three patients with combined respiratory and metabolic acidosis. The pH ranged from 7.15 to 7.22, the pCO_2 from 54 to 73 mm Hg and the base excess from −5.5 to −10.5 mEq/l. Three patients had metabolic acidosis with varying degrees of compensation. Their pH ranged from 7.29 to 7.39, the pCO_2 from 18.5 to 33 mm Hg and the base excess from −7.5 to −15.5 mEq/l. One patient had respiratory alkalosis, one had respiratory acidosis and one had compensated metabolic alkalosis (Table 2).

Group III. There were 12 patients in this group in which the initial resuscitation efforts were unsuccessful; a satisfactory circulatory state could not be established. Six of these patients had combined metabolic and respiratory acidosis with a range in pH from 6.94 to 7.17, pCO_2 from 50 to 71 mm Hg and a base excess from −8 to −21.7 mEq/l. There were three with meta-

TABLE 2—GROUP II

Pt. #	*Age*	*Sex*	*Date and Time*	*pH*	*pCO_2*	*BE*	*Acid-Base Diagnosis*	*Comment*
5.	73	F	10-25-65 9:00 AM	7.22	58	−5.5	MA and RA	During 1st Code Blue, 2 amps bicarb then given. Later had 2nd Code Blue.
			11:00 AM	7.23	41	−11	MA	Given 1 amp bicarb when BE learned.
			4:00 PM	7.31	55	+1.5	RA	On Bennett respirator. Hypotensive, oliguric. Heart block. Electrode catheter put in.
			10-26-65	7.38	48	+1.5	Comp. RA	Somewhat improved. Then failed to respond to pacemaker. Expired 10:00 PM. Post—Acute massive infarct.
6.	60	F	12-20-65 9:00 AM	7.16	73	−9	MA and RA	Code Blue night before. In shock. On levophed.
			1:00 PM	7.44	32	−1	Comp. RAl	Endotracheal tube. On Bennett. Out of shock. Tracheostomy on 12-21-65.
			12-22-65 8:30 AM	7.02	50	−22	MA and RA	Closed chest massage. Bicarb 2 amps before pH drawn. Expired 9:15 AM, 12-22-65. Post—Thromboembolic disease of lung, heart, kidney, spleen and brain. Etiol?
7.	44	M	1-22-66 11:00 AM	7.15	54	−10.5	MA and RA	To emergency room as Code Blue. Bicarb 2 amps after pH drawn.
			12:30 PM	7.50	23.5	−3	RAl	Endotracheal tube. On Bennett. Expired 4:30 AM 1-23-66. Post—Acute infarct both ventricles and septum.
8.	50	F	11-22-65 11:00 AM	7.34	33	−7.5	MA	Code Blue night before. Endotracheal tube. On Bennett. Bicarb 2 amps.
			11-23-65 9:30 AM	7.11	53	−14.5	MA and RA	Downhill course. Bicarb 2 amps.
			2:00 PM	6.92	76	−16	MA and RA	Code Blue Again. Bennett continued. Bicarb 7 amps. Expired 2:15 PM 11-23-65. Post—Fat emboli to lungs and brain (history of fall). Pulmonary edema.
9.	64	F	12-13-65 8:00 PM	7.29	18.5	−15.5	MA	Sample just after defibrillation and 2 amps bicarb. Given 3 amps bicarb during night and required DC shock 12 times.
			12-14-65 9:30 AM	7.46	31.5	0	RAl	Downhill course. Electrode catheter and IVC ligation during afternoon.
			12-15-65	7.43	29	−4	Comp. RAl	Progressive congestive failure. Expired 8:40 PM 12-16-65. Post—Severe ASHD, myocardial fibrosis.
10.	67	M	2-8-66 4:30 PM	7.39	23.5	−8.5	Comp. MA	Code Blue and defibrillation on 2-5-66. Sample just after asystole on 2-8-66. Temporary response to isuprel. Expired 7:00 PM 2-8-66. Post—Massive ant. infarct several days old.
11.	73	M	8-17-65 8:00 AM	7.48	24	−2.2	RAl	Code Blue last night. Endotracheal tube. On Bennett. Downhill course. Expired 12:05 PM 8-17-65.
12.	66	M	12-14-65 8:20 AM	7.31	48	−3	RA	Aspirated while eating. Followed by Code Blue.
			10:15 AM	7.46	38	+3	MAl	Condition stable. Expired 12-17-65.

TABLE 2—GROUP II (Continued)

Pt. #	*Age*	*Sex*	*Date and Time*	*pH*	*pCO_2*	*BE*	*Acid-Base Diagnosis*	*Comment*
13.	49	M	1-3-66 10:00 AM	7.42	55	+8	Comp. MAl	Code Blue at 6:00 AM. Bicarb 1 amp.
			1-4-66 1:00 PM	7.42	55	+8	Comp. MAl	Hypochloremic alkalosis. History of diuretics.
			1-5-66 9:15 PM	7.30	58	−0.5	RA	During closed chest massage. After 1 amp bicarb. Tracheostomy, 4 amps bicarb, 20-30 DC shocks during night.
			1-6-66 9:00 AM	7.51	50	+12	MAl	On Bennett.
			4:45 PM	7.44	70	+12	MAl and RA	Irritable heart.
			8:00 PM	7.44	42.5	+4	MAl	About 130 DC shocks from 3:00 PM to death at 8:30 PM. Post—Calcific mitral stenosis, pulmonary congestion marked.

bolic acidosis. The pH in these patients ranged from 7.09 to 7.23, the pCO_2 from 18.7 to 44.5 mm Hg and the base excess from −7 to more than −22 mEq/l. Two patients had mild respiratory acidosis. The values for pH were 7.25 and 7.32, the pCO_2 was 53 mm Hg in both and the base excess was −1 and −1.5 mEq/l. The last patient in this group had a compensated metabolic alkalosis (Table 3).

DISCUSSION

A number of authors have discussed the development of acidosis during cardiac arrest. This has been particularly stressed by Stewart and co-workers[5, 20, 21] who have shown that acidosis itself can be a cause of asystole.[13] A decreased ventricular efficiency[22] and an increased susceptibility to ventricular fibrillation[23] in the presence of acidosis also have been shown. The present study was, therefore, undertaken in an effort to document at the bedside the presence and severity of acid-base imbalance during emergency cardiac resuscitation.

In a study such as the present one, there are certain problems which are inherent. Since acute cardiac emergencies can and do occur at any time in any location in the hospital, one of the major obstacles is that of simply being on the scene to obtain the blood samples. The 25 patients in this report represent only a portion of the Code Blue procedures carried out at this hospital in the past 12 months.

Another very real problem is the difficulty in obtaining arterial blood samples from a patient on whom vigorous closed chest massage is being applied. Capillary samples were not felt to be accurate indicators of the acid-base picture in patients with circulatory collapse. Therefore, arterial samples were used. It may be quite difficult to do an arterial puncture when the patient has no pulse of his own since it is necessary to introduce the needle during intermittent chest compression so there is a palpable pulse. Nevertheless, femoral artery samples can be obtained with practice under these circumstances.

When a patient did survive for a period of hours or days, the problem of obtaining repeat arterial samples was much easier to solve. It is a relatively simple procedure to perform an arterial puncture of either the brachial or femoral artery with a 21 gauge needle and obtain 3 to 4 ml of arterial blood in a heparinized glass syringe. Local anesthesia is not required. Repeat arterial punctures of the same artery of the same patient can be made without complications.

Even though the Astrup technique provides for rapid determination of acid-base parameters, there still is a lag of 20 minutes or more by the time the blood sample is taken to the laboratory, determinations and calculations are made and the results are called back to the patient's floor. If the patient survives even temporarily, these results can be of real value in helping to decide further therapy, for example, the giving of additional bicarbonate or more vigorous respiratory support.

TABLE 3—GROUP III

Pt. #	*Age*	*Sex*	*Date and Time*	*pH*	*pCO_2*	*BE*	*Acid-Base Diagnosis*	*Comment*
14.	71	M	8-30-65	6.94	50	−21.5	MA and RA	During closed chest massage. Expired.
15.	59	M	9-10-65	7.19	55.5	−8.2	MA and RA	During closed chest massage. After Bicarb 2 amps given. Expired.
16.	65	M	10-7-65	7.17	67	−8	MA and RA	During closed chest massage. After Bicarb 1 amp given. Expired. Post—Acute myocardial infarct.
17.	61	M	12-18-65	6.97	71	−18.5	MA and RA	During closed chest massage. Expired. Post—Massive pulmonary infarct.
18.	63	M	3-7-66	7.13	71	−9	MA and RA	During closed chest massage. Expired.
19.	59	M	9-16-65	6.99	54	−21.5	MA and RA	During closed chest massage. Bicarb 2 amps then given.
				6.96	66	−18	MA and RA	Half hour later during continued closed chest massage. Expired.
20.	69	F	7-23-65	7.09	18.7	over −22	MA	During closed chest massage. Expired.
21.	43	M	1-26-66 9:00 AM	7.41	25	−7	MA and RAl	About 30 min. before Code Blue. Hypotensive, comatose, hyperventilating.
			9:45 AM	7.23	41	−9.5	MA	During closed chest massage. Expired.
22.	69	F	3-4-66	7.19	44.5	−12.5	MA	During closed chest massage. Bicarb 4 amps given in 45 min. before pH sample drawn. Expired.
23.	60	F	10-21-65	7.25	53	−1.5	RA	During closed chest massage. Expired.
24.	88	M	1-12-66 5:00 PM	7.32	53	−1	RA	During closed chest massage. Bicarb. 3 amps then given in 30 min. Endotracheal tube with bag breathing.
			5:30 PM	7.49	over 100	over +20	RA and MAl	Sample at end of Code Blue. Expired. Post—Pulmonary edema. ASHD.
25.	65	F	12-27-65	7.45	45	+6	MAl	7 days before Code Blue. Congestive failure. Nausea and vomiting. On diuretics. NH_4Cl started.
			1-3-66	7.40	50	+5	MAl and RA	During closed chest massage. After Bicarb 2 amps given. Expired. Post—Pulmonary emboli, source? Pulmonary infarct on rt. Acute visceral congestion. Cardiac hypertrophy and dilatation. Obesity.

It will be noted from Tables 2 and 3 that a significant number of patients initially had metabolic acidosis of varying degree. It is difficult from these data to state any hard and fast rules regarding bicarbonate administration. In general, it would appear that one ampule of bicarbonate (44 mEq) given at approximately ten minute intervals during closed chest massage is a reasonable rule of thumb. This has been suggested by various authors.[3-8] Certainly the degree of base deficit (negative base excess) can at times become quite marked fairly quickly, in spite of supposedly adequate closed chest massage. Examples of this can be seen in patients # 9, # 14, # 17, # 19 and # 20, in each of whom the base excess was more negative than –15 mEq/1 initially. It is helpful if the clinical picture prior to the Code Blue is known. For example, patient # 25 had a mild metabolic alkalosis seven days before she expired. She was given two ampules of bicarbonate before this was discovered in the chart.

Maintenance of a clear airway and adequate respiratory ventilation is a recognized prerequisite of any emergency situation. However, one must be aware of the problem of possible carbon dioxide retention in spite of supposedly adequate assisted ventilation. Most of the patients in this study had ventilatory support utilizing either a plastic airway or endotrachael tube with bag breathing or assistance with a pressure controlled Bennett respirator. In spite of close attention to respiration, it was common to find an elevation of pCO_2 with respiratory acidosis. It was initially present in 16 of the 25 cases. These results underscore the importance of vigorous respiratory support since the retention of carbon dioxide tended to complicate the metabolic acidosis which was also frequently present.

In order to establish an airway, a plastic tube should be inserted to hold the tongue forward. If there is any question regarding the adequacy of the airway, an endotrachael tube should be introduced without hesitation.

Once an airway has been established, only part of the problem has been solved. Mouth to mouth respiration has certain esthetic drawbacks. The use of an Ambu bag facilitates ventilation, but one must not be lax in its use. A certain amount of physical energy is required in squeezing the bag so that chest excursion is visible and good breath sounds can be heard with inspiration. A Bennett respirator may be applied but, again, this does not automatically mean adequate ventilation in an unconscious patient if the respirator is pressure controlled. It would certainly be advantageous to use a volume controlled respirator so that not only the rate but also the volume of air moved with each cycle could be adjusted. In this way there could be more complete control of ventilation.

Retained secretions and aspiration of vomitus may foil even the best ventilation techniques. Therefore, the immediate availability of suction equipment is imperative in order to keep the mouth and airway free. It may be desirable to introduce a nasogastric tube in order to empty the stomach contents and prevent gastric distention.

There were four survivors or 16% in this group of 25 patients. In examining possible reasons why these four patients in Group 1 had long term survival (Table 1), it is noted that they did not have profound acid-base disturbances, except for patient # 2 who had a severe respiratory acidosis. This patient had dehiscence of a thoracotomy incision. Marked respiratory distress ensued and was felt to be the cause of his asystole, since establishment of adequate ventilation clinically did more to revive him than any of the other resuscitative procedures employed.

It is of interest that a physician was at the bedside within seconds of the emergency in each case of long-term survival. Indeed, patients # 1 and # 4 were defibrillated so quickly that closed chest massage was not required. None of these four patients was without an effective pulse of his own for more than approximately one minute. Hence, there apparently was not time for a serious degree of metabolic acidosis to develop. Perhaps the best method of treatment, then, is rapid resuscitation whenever possible. Day has reported a survival rate of 54% in 24 patients with unexpected cardiac arrest.[24] These patients had acute myocardial infarction and were being closely observed in an Intensive Coronary Care Area.

The above findings suggest that all acute myocardial infarctions should be monitored continuously for perhaps the first seven days after the infarct. This applies even though a given case may be completely "uncomplicated." Ventricular fibrillation may be the first sign of trouble. By continuous monitoring of all infarctions, precious seconds may be saved in instituting resuscitative measures. This is best facilitated by an Intensive Care Unit in which well trained personnel and emergency equipment are literally at the patient's bedside.

Summary

Femoral artery blood samples were obtained in a group of patients during emergency cardiac resuscitation including closed chest massage. In general, the results confirm the finding of metabolic and, frequently, respiratory acidosis in these patients. The acidosis was at times of extreme degree. The necessity of vigorous respiratory support is emphasized in order to prevent carbon dioxide retention from complicating the metabolic acidosis. The administration of one ampule (44 mEq) of sodium bicarbonate for approximately every ten minutes of resuscitation seems to be an acceptable rule of thumb in combating the metabolic component of the acidosis. A plea is made for monitoring all acute myocardial infarctions in an Intensive Care Unit.

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Urolithiasis in Childhood: (Cont'd)

spect, operative intervention for the renal calculi would not appear to have been warranted. Operative trauma to the kidneys caused an additional marked functional depletion which could have been avoided since the problem is fundamentally one of microscopic tubular deposits of oxalate.

It would appear that surgery, other than to remove obstructing calculi in the conduits, should not be entertained since infection and extensive pyelonephritic destruction may be added to an already precarious situation.

SUMMARY

Six cases of stones have been presented to illustrate the paucity of calculi seen in the average pediatric urological unit and to reaffirm the proposition that most such stones occur in conjunction with stasis, infection and foreign body.

We wish to emphasize the need for prompt consideration of primary hyperoxaluria in the pediatric patient with calculus disease, particularly since medical therapy appears to hold increased promise. Finally, we suggest that surgical intrusion upon parenchymal oxalate stones is irrational in concept and may be productive of further renal functional depletion.

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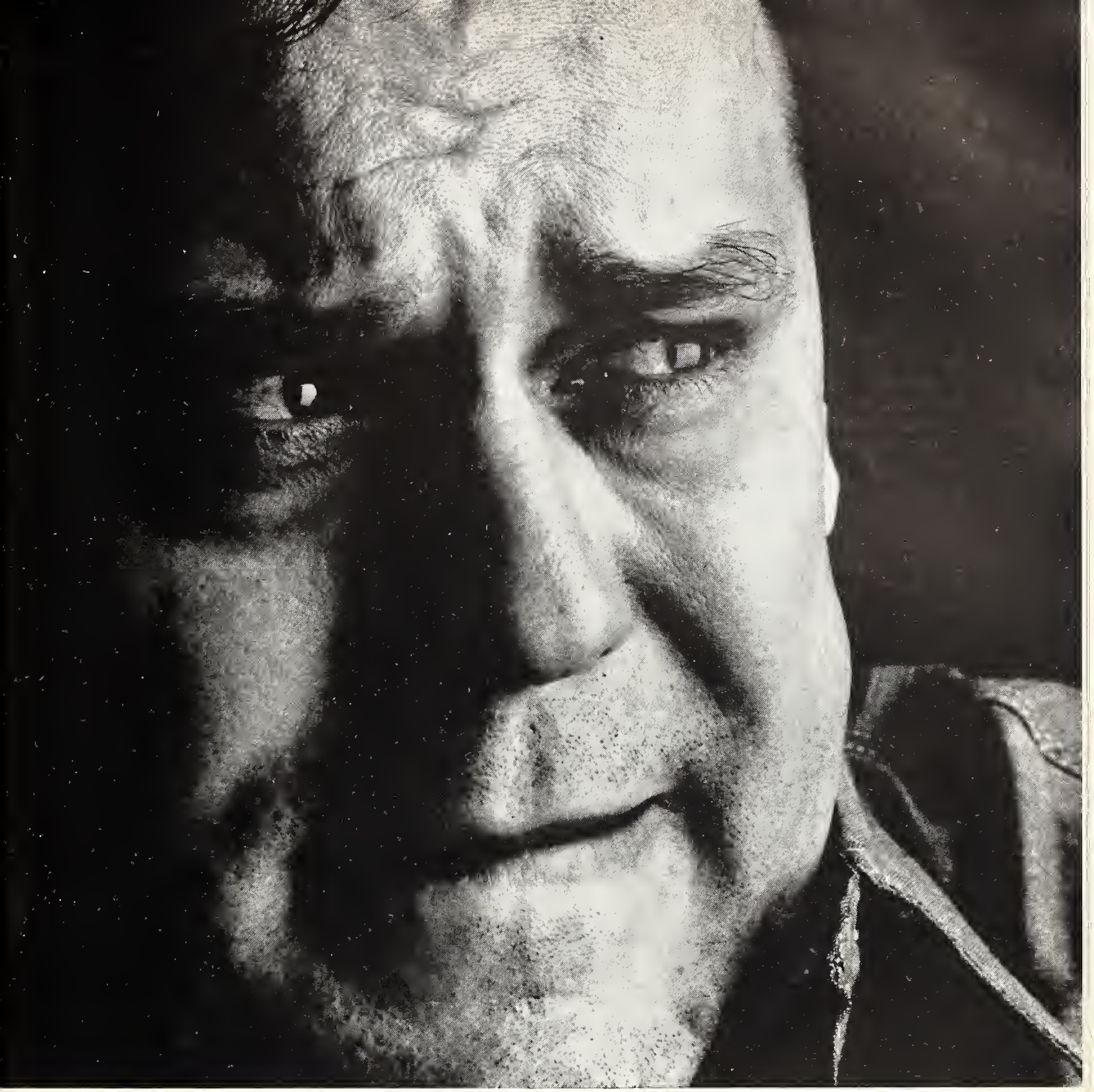

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Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

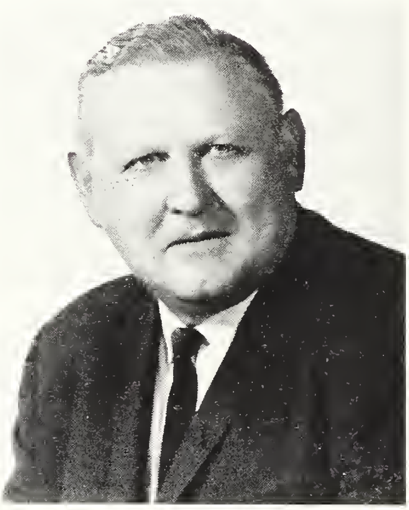
Shortly after you receive this issue of MISSOURI MEDICINE my year in office as President of the Missouri State Medical Association will end. It has been an interesting and stimulating year . . . gruelling and trying on occasion . . . but with its share of very real satisfactions and compensations.

My most pleasant experiences of the past year are related either directly or indirectly to the work that is performed by those members of our profession who are willing to devote their time and energies to the problems of the medical profession and "organized medicine." These are the men and women who take an active interest in the programs of their local medical societies, their state association and the AMA. They are the physicians who literally steal time from their own practices, their own families and their own leisure in order to wrestle with the complex medical and health care puzzles of our modern society. Unfortunately, compared with the total membership of the profession, their numbers are small.

This brings me to my most disturbing observation of the past year. It appears (and this may be a misleading appearance) that the great majority of physicians has little or no interest in the affairs of organized medicine. Even more disturbing is the fact that a small portion of these non-contributors seem to derive pleasure from criticizing and ridiculing the efforts of the workers. Similar complaints are heard from other organizations . . . professional, business and labor . . . so perhaps we are dealing with unchangeable human nature. I don't believe so.

I believe that the vast majority of physicians *would* take an active interest in the non-scientific affairs of medicine if someone would take time to explain the problems to them, encourage them to participate in the programs and inspire them to contribute creative ideas of their own. For this reason, I will use my final President's Message to challenge the Missouri State Medical Association and its component societies to launch a planned continuing program designed to reach every physician in the state and to make each one aware of the structure, policies, activities and goals of organized medicine.

In an increasingly complex society, it is imperative that the profession face the medical and health care problems of the day with unity of thought and purpose.



Byron M. Stuart, M.D.

Woman's Auxiliary

The pride, privilege and challenge of taking office as the President of the Woman's Auxiliary to the Missouri State Medical Association inspires me as it has the long line of State Presidents before me. A President accepts the responsibility of service in an effort to make the Auxiliary's worth, purposes and potentials more widely known, and to make its activities more effective. A new President steps up into her office on the shoulders of all the dedicated women before her, not with a brand-new, sweep-clean program, but secure in the knowledge of time-proven objectives and sound program to be continued and developed. To all the Past Presidents I have known, I give thanks for their unlimited encouragement and help. To those I have not known, I thank them for the wonderful organization they have guided and bequeathed to us; and to the immediate Past President, Mrs. Wallace R. Stacey, I have already given my heart. The Auxiliary has benefited greatly from her unselfish gifts of time and effort to direct, encourage and represent Missouri Doctors' wives. Thanks, Wilda!

Mrs. John M. Williams

Wives of doctors are particularly proud of their husbands and the profession, and rightly so. In the majority of cases, the physician and his wife have spent many difficult years of the closest teamwork to achieve the M.D. goal. Why should this essence of teamwork be lost as the doctor becomes engrossed in his practice of medicine and his wife now has more time in her home and with her children? It surely follows that wives joined together in the Auxiliary become his strongest champions and his greatest resource of volunteer power. We could hope that in these difficult times of Medicare and the constant pressure on the doctor's practice of medicine, a closer working relationship could be established between the County Medical Societies and their Auxiliaries and the State Medical Association and its Auxiliary.

There is no better place in the world for a doctor's wife to become more aware of what it means to be a doctor's wife and the responsible place she holds in the community than at an Auxiliary meeting or through receiving and reading her Missouri State Auxiliary publication, *Rx Auxiliary News*, and the National Auxiliary publication, *MD's Wife*. As the doctor realizes the important part his wife must play in community affairs, surely he cannot but encourage her to become a member of the Auxiliary. If there is no organized medical society or Auxiliary in the county in which she resides, any doctor's wife can belong to HER group as a Member-at-Large by sending in her dues to the State Treasurer, Mrs. Edgar W. Davis, 49 Woodcrest Drive, St. Louis, Missouri 63124. She becomes a member of both the State and National Auxiliaries and will receive both the publications mentioned above. Talk to your wife, Doctor. Tell her how much we need and want her as a member!

"Know Your Auxiliary," our goal for the past year, is based on the premise that you cannot be interested in something you know nothing about. The more you know about a subject, the more interested you become. An interested and ever-growing membership is basic to any organization; and out of a growing, interested and knowledgeable membership must emerge energetic, dedicated and concerned leaders.

Leadership is vital to a dynamic organization, to a community or to a country. Our government and society have become so encompassing that they touch every phase of living. Matters of government, education, health education, health careers, safety and disaster preparedness, rural health, international health and the many facets of community service demand the time of the doctor or the doctor's stand-in, his Auxiliary wife!

Knowing your Auxiliary is a helpful prerequisite to AUXILIARY LEADERSHIP—COMMUNITY LEADERSHIP!

'Gal Fridays' Extend Invitation To Meeting in Springfield

The Missouri State Medical Secretaries and Assistants Society will hold its annual convention at the Holiday Inn in Springfield on April 22 and 23, 1967. Mrs. Marguerite W. Hubbard, program chairman and president-elect, has announced that Mrs. Pearl Neal, president, will preside at the two-day program planned to be both educational and entertaining.

Guest speakers will include Mrs. Elaine Crabtree, head of Nursing Education at Burge-Protestant Hospital in Springfield; Gordon F. Wise, M.D., Executive Secretary of the Missouri Association for Mental Health; and Jose M. Sala, M.D.

Guy Callaway, Jr., M.D., President of the Greene County Medical Society, will be featured speaker at the annual banquet Saturday and the "Greene County Boys" will entertain the state group.

Mrs. Hubbard urges all doctors to encourage their secretaries and assistants to attend the convention and become active members of the Society. She asks those interested in attending to contact Miss Mary Ellen Ucker, c/o William Paul Maddux, M.D. and W. E. Park, M.D., 209 Professional Bldg., Cherry & Kimbrough Streets, Springfield, Mo. 65806.

School Health Committee Conference on Children

A conference on "Learning Disabilities of Young Children" will be sponsored by the St. Louis County Medical Society's School Health Committee on April 28-29 at the Horton Watkins High School in Ladue.

Purpose of the symposium is to assist educators in working with young children with learning disabilities. Discussions will be limited to children within the age group of five through eight and will focus on deficiencies in psychomotor developments, language, visual perception and auditory perception.

Speakers will include Herbert Birch, M.D., psychiatrist from the Albert Einstein College of Medicine; Newell Kephart, Ph.D., Purdue University; Helmer Myklebust, Ed.D., Director, Institute for Language Disorders, Northwstern University; and Lawrence Lawson, M.D., ophthalmologist and associate of Dr. Myklebust.

The conference is designed primarily for educators, physicians and psychologists and participation will be on an invitational basis.

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Iodide contraindications: tuberculosis, pregnancy.

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Dispensed in bottles of 100 and 1000 tablets.

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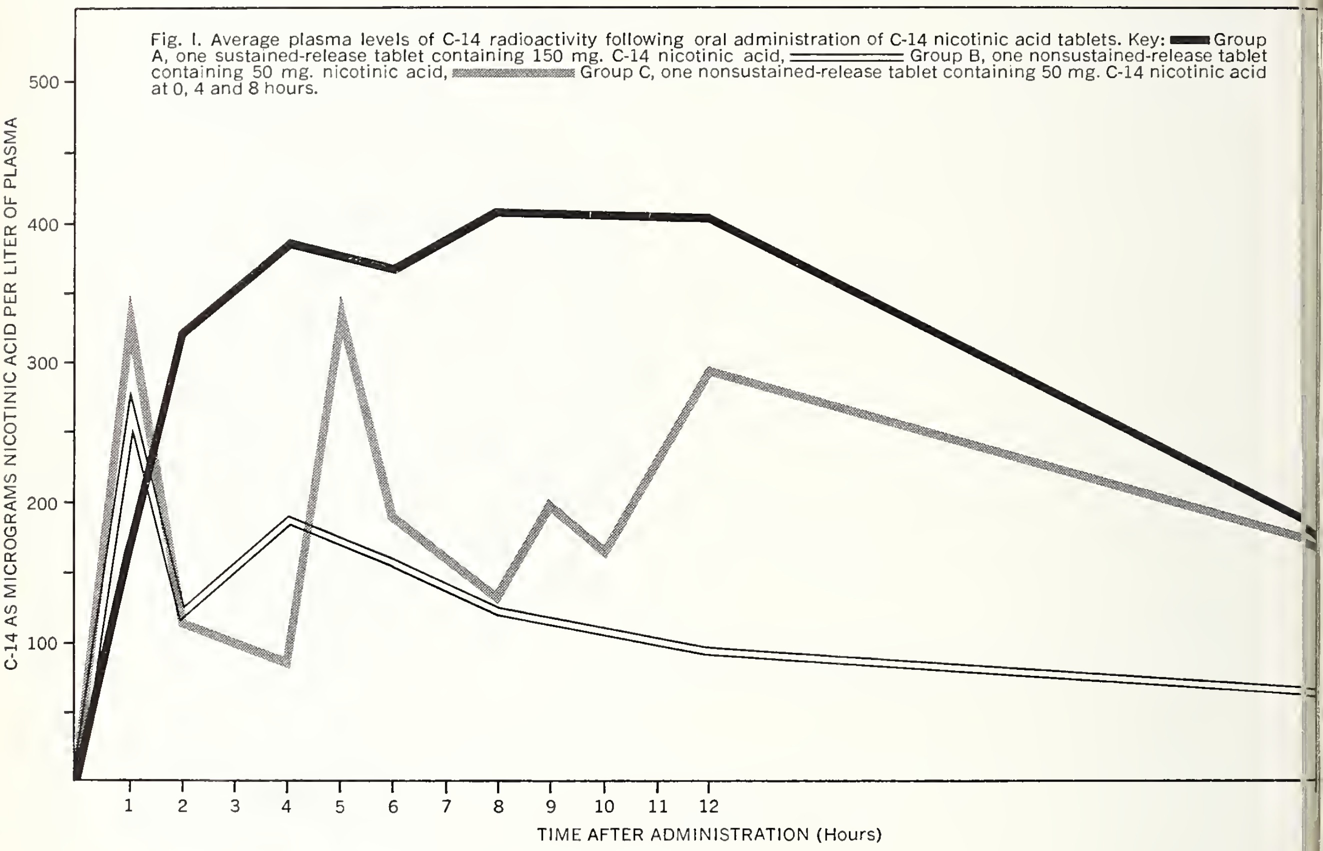

Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ■ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

(fewer absent doses by absent-minded patients

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-mindedness or senile confusion. Therapy *can* be
tinuous on a daily dose of only one Geroniazol TT
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The gradual release of nicotinic acid in Geroni
TT will provide the well-known peripheral vasodil
tion needed in patients with deficient circulation
with a minimum amount (if any) of "flushing." A
cerebrovascular circulation is complemented by
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piratory stimulant.

Geroniazol TT improves the typical, unfortun
signs of senile confusion. Patients become more a

EDITORIALS

YOU + ME = 0

The time seems to be rapidly approaching when I can no longer be me. Apparently, I am being systematized into a Mr. Nothing—no opinion, no identity, no grade, no class, a faceless non-involved mass of movable protoplasm without any sense of purpose, direction, goal or reason for existence.

Why does this happen? It happens because—(1) we let it happen, (2) we let it happen to others, (3) we do not raise our minds or voices against it happening to us or to others. Ergo, we have it coming and we get it.

Witness: The new trend in education: No grades. Just being in school with no competition is enough to get you educated. The new trend in art: A formless mass with clashing, unrelated colors bringing fantastic endorsements and prices from equally formless, unrelated minds. The new trend in discipline: A headless family attempting to raise intelligent offsprings through the process of permitting them to run amuck for fear of being considered an opponent of dope addiction, sexual perversion or homicide.

The new trend in church activity (pardon us—non-activated): A leaderless body dedicated (on Sunday) to the salvation of man's everlasting soul followed by six days of total indifference to man's (members) conduct.

The new trend in non-involvement: No participation in municipal or state affairs for fear of having a label of political identity pinned on our lapel. No cooperation with any one trying to make improvements, or to correct errors or to make changes long overdue for fear of being labeled a rightist, a leftist, a do-gooder, a radical, a liberal or a conservative.

All of these equalizers will make us easier to be computerized, counted, totaled and accounted for. But where goes the dignity of man—the worth of the individual when all of us have become just blobs of mass or holes in a piece of cardboard? When the strong are equal to the weak? When the ignorant are classed with the intelligent? When the moral are no better than the immoral? When the somebodies of culture, religion and dignity are lowered to the nobodies they must descend to if we are to be fully and totally equalized?

The common denominator of the equal man has yet to look at the stars—behold their splendor, and then logically wonder how they came there, and then consider what lies beyond the farthest limits of his present imagination.

St. Louis County Medical Society Bulletin

CONTRACEPTIVES, ABORTION, UNWED MOTHERS, ALCOHOLISM—

The moral certitudes of yesterday have a habit of becoming moral issues in today's world of kaleidoscopic change.

Examples abound in medicine. Society no longer knows what it wants done about the unwed mother, for instance, even though a physician is expected to have ready answers which will not only help the woman but concomitantly please society.

When is abortion justified? Heat is generated on both sides of the argument and may at any time be reflected upon a physician who becomes involved. Yet physician involvement in these and other questions is demanded by the public. As an important segment of the community, the individual physician, as well as the medical profession, is expected to contribute to the fixing of moral boundaries.

This is "The Doctor's Dilemma in the World of Changing Morals," the subject of a panel discussion to be held June 18 at the American Medical Association's 116th Annual Convention in Atlantic City, N. J. The program begins at 8:15 p.m. in Convention Hall.

Sponsored by the AMA Committee on Medicine and Religion, it is the fifth such program centering on moral-ethical issues, according to the Rev. Dr. Paul B. McCleave, LL.D., director of the Department of Medicine and Religion. The first, on "The Terminal Patient," was presented at the 112th Annual Convention in 1963.

Topics scheduled for discussion are "Unwed Mother," "Contraceptives and the Coed," "Abortion" and "Alcoholism."

Panelists are to be the Rev. Dr. Seward Hiltner, Ph.D., Professor of Theology and Personality, Princeton Theological Seminary, Princeton, N. J.; Harold I. Lief, M.D., formerly Professor of Psychiatry, Tulane University School of Medicine, New Orleans, La., presently Professor of Psychiatry and Director, Division of Family Study, University of Pennsylvania, Philadelphia, Pa.; Thomas J. O'Donnel, S.J., formerly Professor of Moral Ethics, Woodstock Seminary and Georgetown University School of Medicine, Washington, D. C.; and, John Rock, M.D., Director, Rock Reproductive Clinic, Inc., and Clinical Professor of Gynecology, Emeritus, Harvard University School of Medicine, Boston, Mass.

"We will not be arguing the rightness or wrongness of the problems," said Dr. McCleave, who will serve as moderator. "Our purpose will be to examine the dilemma of the physician who must not only work with the problems, but become involved in them."

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You can't set her free. But you can help her feel less anxious.

You know this woman.

She's anxious, tense, irritable. She's felt this way for months.

Beset by the seemingly insurmountable problems of raising a young family, and confined to the home most of the time, her symptoms reflect a sense of inadequacy and isolation. Your reassurance and guidance may have helped some, but not enough.

SERAX (oxazepam) cannot change her environment, of course. But it can help relieve anxiety, tension, agitation and irritability, thus strengthening her ability to cope with day-to-day problems. Eventually—as she regains confidence and composure—your counsel may be all the support she needs.

> Indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression.
>
> May be used in a broad range of patients, generally with considerable dosage flexibility.

Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.

Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. One patient exhibiting drug dependency by taking a chronic overdose developed upon cessation questionable withdrawal symptoms. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6 to 12 year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leukopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever, euphoria and dysmetria.

Availability: Capsules of 10, 15 and 30 mg. oxazepam.

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Radiological Techs to Meet

The American Society of Radiological Technologists will hold its annual convention on June 10-15 at the Chase-Park Plaza Hotel in St. Louis.

The scientific program, symposium and refresher courses have been planned with the technologist in mind. Members of MSMA are invited to send their radio techs and other staff members interested in X-ray technology to this meeting. They do not have to be members of ASRT to be eligible to attend.

Drury Names New Dorm for Doctors Smith

Dr. Carlie Souter Smith and her late husband, Dr. Wallis Smith, are being honored by Drury College in Springfield. The College is naming its new $750,000 dormitory for women "Smith Hall" in their honor.

The announcement was made by Flavius B. Freeman, Chairman of the Board of Trustees of Drury College, and Dr. Earnest S. Brandenburg, President, who called the naming of the dormitory "a small reward for their many years of service." He added, "It honors two people who have shown by their dedicated service the highest regard for both Drury and Springfield."

Dr. Wallis Smith, a Drury graduate in 1908, and his wife served on the Board of Trustees a total of 30 years. Dr. Wallis Smith served from 1936 until his death in 1951. Dr. Souter Smith was elected to replace him and is the only woman on the Board. She also has been the only woman on the Springfield City Council since 1953.

Among Dr. Wallis Smith's civic and professional activities were offices and membership in the Chamber of Commerce, Rotary Club, Greene County Medical Society, Missouri State Medical Association, American College of Surgeons, International College of Surgeons and St. Paul Methodist Church. He was an organizer of one of the first medical clinics in the Ozarks, which later became the Smith-Glynn-Callaway Clinic.

Dr. Souter Smith was Springfield's Woman of Achievement in 1951 and held positions in the Medical Society and other professional organizations before her retirement from medical practice in 1955. She is a member of the Board of Trustees of the Springfield Boys' Club and a leader in the United Church Women's activities.

The new dormitory, which will house 160 women students, is located just east of Wallace Hall on the northeast corner of the Drury Campus.

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Therapeutic Effects: Tandearil is a nonhormonal compound which may rapidly resolve inflammation and help restore normal joint function. Its action does not affect pituitary-adrenal function or impair immune responses. Its value in osteoarthritis is especially noteworthy because this disorder responds inconsistently to steroids and is often resistant to salicylates. Further, indomethacin is limited only to osteoarthritis of the hip, whereas oxyphenbutazone is effective in all forms of the disease.

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Osteoarthritis: The initial daily dosage in adults is 300-600 mg. in divided daily doses. When improvement occurs, dosage should be decreased to the minimum effective level; this should not exceed 400 mg. daily, and is often achieved with only 100-200 mg. daily.

For complete details, please refer to full prescribing information. 6562-VI(B)R

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3 out of 4 osteoarthritics completely or markedly improved

Sperling, I.L.: 3 Years' Experience with Oxyphenbutazone in the Treatment of Rheumatic Disorders, Applied Therapeutics 6:117, 1964. 76.9% of 407 patients

Watts, T.W., Jr.: Treatment of Rheumatoid Disorders with Oxyphenbutazone, Clin. Med. 73:65, 1966. 84.6% of 39 patients

Please see adjoining page for brief prescribing summary

TA-4919 PC

New Members

Carl D. Ambler, M.D., Wornall Rd. at 44th St., Kansas City, has become a member of Jackson County Medical Society. Dr. Ambler is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1957. He specializes in radiology.

Sedat M. Ayata, M.D., Jewish Hospital, St. Louis, has become a member of St. Louis County Medical Society. Dr. Ayata is a native of Istanbul, Turkey, received his preliminary education at the University of Istanbul and his M.D. degree at the University of Istanbul in 1955. He specializes in anesthesiology.

Eleni Bacola, M.D., 1710 Independence Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Bacola is a native of Salonica, Greece, received her preliminary education at the University of Salonica and her M.D. at the College of Aristotle in 1957. She specializes in pediatrics.

Jose L. Collantes, M.D., Gower Medical Clinic, Gower, has become a member of Clinton County Medical Society. Dr. Collantes is a native of Binalbagan, Philippines, received his preliminary education at the University of St. Thomas and his M.D. degree at the University of St. Thomas in 1952. He specializes in pediatrics.

S. L. Farrell, M.D., 459 W. Springfield, Sullivan, has become a member of Franklin County Medical Society. Dr. Farrell is a native of Neosho, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1962. He is in general practice.

John B. Goldsborough, M.D., State Hospital No. 2, St. Joseph, has become a member of Buchanan County Medical Society. Dr. Goldsborough is a native of Salem, Illinois, received his preliminary education at the University of Illinois and his M.D. degree at Loyola University in 1945. He specializes in child psychiatry.

Patrick Joseph Hardy, M.D., 1125 Graham Rd., Florissant, has become a member of St. Louis County Medical Society. Dr. Hardy is a native of St. Paul, Minnesota, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1960. He specializes in internal medicine.

Lloyd A. Hollinger, M.D., 6700 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Hollinger is a native of Hays, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1960. He specializes in internal medicine.

John L. Hunt, M.D., 111 Ash St., Campbell, has become a member of Dunklin County Medical Society. Dr. Hunt is a native of St. Louis, received his preliminary education at the University of Missouri and his M.D. degree at the

(Continued on page 349)

In Memoriam

Dorsett, E. Lee, M.D., Indianola, Mississippi, a graduate of Marion-Sims, 1906; member of St. Louis Medical Society; aged 83; died January 27, 1967.

McMahon, Alphonse, M.D., St. Louis, a graduate of St. Louis University, 1919; member of St. Louis Medical Society; aged 71; died February 2, 1967.

Knobb, Harris, M.D., Springfield, a graduate of St. Louis University, 1942; member of Greene County Medical Society; aged 49; died February 5, 1967.

Kehoe, John J., M.D., St. Louis, a graduate of St. Louis University, 1906; member of St. Louis Medical Society; aged 84; died February 5, 1967.

Welch, Hooper W., M.D., St. Louis, a graduate of St. Louis University, 1917; member of St. Louis Medical Society; aged 74; died February 11, 1967.

Weintraub, Solomon A., M.D., St. Louis, a graduate of Washington University, 1909; member of St. Louis Medical Society; aged 81; died February 24, 1967.

New Members (Cont'd)

University of Missouri in 1963. He is in general practice.

John Keith Legan, M.D., 209 E. Washington, Kennett, has become a member of Dunklin County Medical Society. Dr. Legan is a native of Kennett, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1958. He specializes in pathology.

Frank A. Mantz, M.D., 8905 Pawnee Lane, Kansas City, has become a member of Jackson County Medical Society. Dr. Mantz is a native of Philadelphia, Pennsylvania, received his preliminary education at Franklin and Marshall College and his M.D. degree at the University of Pennsylvania in 1938. He specializes in pathology.

Robert M. Petitt, M.D., 4320 Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Petitt is a native of Paola, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in internal medicine.

William Sheffield, M.D., Jewish Hospital, St. Louis, has become a member of St. Louis County Medical Society. Dr. Sheffield is a native of Pasadena, California, received his preliminary education at Yale University and his M.D. degree at George Washington University in 1961. He specializes in pathology.

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1. Bradley, J. E., *et al.*: J. Pediat. *38*:41 (Jan.) 1951.
2. Bradley, J. E.: Mod. Med. *20*:71 (Oct. 15) 1952.
3. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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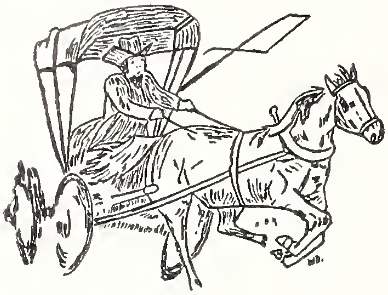

FORTY YEARS AGO

The Pettis County Medical Society will be host to our Association at the annual meeting May 3-5 and is preparing to entertain a large number of guests. Hotels and rates: Terry Hotel with 150 rooms, $2.50 per day without bath, $3.00 with bath; Royal Hotel with 25 rooms, $1.50 per day without bath, $2.00 with bath; La Moore Hotel with 25 rooms, $1.25 per day without bath, $2.00 with bath.

The gift of one million dollars to Washington University for the establishment of a radiological institute will enable the medical school to establish in St. Louis one of the most important centers for the study of cancer to be found in the country. The money was donated by the Mallinckrodt family of St. Louis and the General Education Board of the Rockefeller Foundation.

The Lafayette County Medical Society met in Higginsville March 8 with President W. E. Koppenbrink, M.D., in the chair. Those present were Drs. Lewis Carthrae, Jr., E. A. Hoefer, C. T. Ryland, W. C. Webb, E. L. Johnson, Odus Liston, F. M. Shryman, W. A. Braecklein, J. W. Horner and H. M. Lissack.

TWENTY-FIVE YEARS AGO

The second American Congress on Obstetrics and Gynecology will be held in the St. Louis Auditorium on April 6-10.—The first Conference on Medical Service Plans was held in Chicago on February 14 at the headquarters of the American Medical Association and the Palmer House. Experiments in the full coverage type of medical service plans are being undertaken to determine the effect of such plans on the private practice of medicine, how such plans affect the physician-patient relationship, what problems arise in connection with the practice of specialists, the difference between urban, rural and metropolitan practice and all general problems relating to medical care.

Dr. Richard L. Sutton, Jr., Kansas City, has been appointed Consultant to the National Institute of Health, Division of Industrial Hygiene.—The Dallas-Hickory-Polk County Medical Society held a dinner meeting at Humansville on February 11. Present were Drs. R. C. Nevins, G. G. Robertson and A. J. Stuffelbam, Humansville; V. H. Greenwood, R. E. Harrell and G. C. Plummer, Buffalo; T. D. Wrinkle, Halfway, and C. H. Brown, Fairplay.

TEN YEARS AGO

The impressive story of the accomplishments of U. S. medical schools will be told to the nation during the second annual observance of Medical Education Week, April 21-27. The Missouri State Medical Association has been invited by the national sponsors to develop plans for community programs in this area.

The Society of University Surgeons elected C. Rollins Hanlon, M.D., St. Louis, as President-Elect. He will take office in 1958.—E. A. Stricker, M.D., St. James, is chairman of the Phelps County Centennial Committee and in charge of arrangements for the observance this summer.—George V. Feist, M.D., Kansas City, is a new member of the Board of Directors of MAGP.

At a meeting of the Clay County Medical Society on January 29 in Excelsior Springs, a resolution was passed recommending that any polio vaccination program in Clay County be formulated and directed by the Clay County Health Department under the supervision of Director Murray Grant, M.D. This resolution was passed because it was felt that the Society should guide local efforts to get as many people as possible immunized against poliomyelitis.

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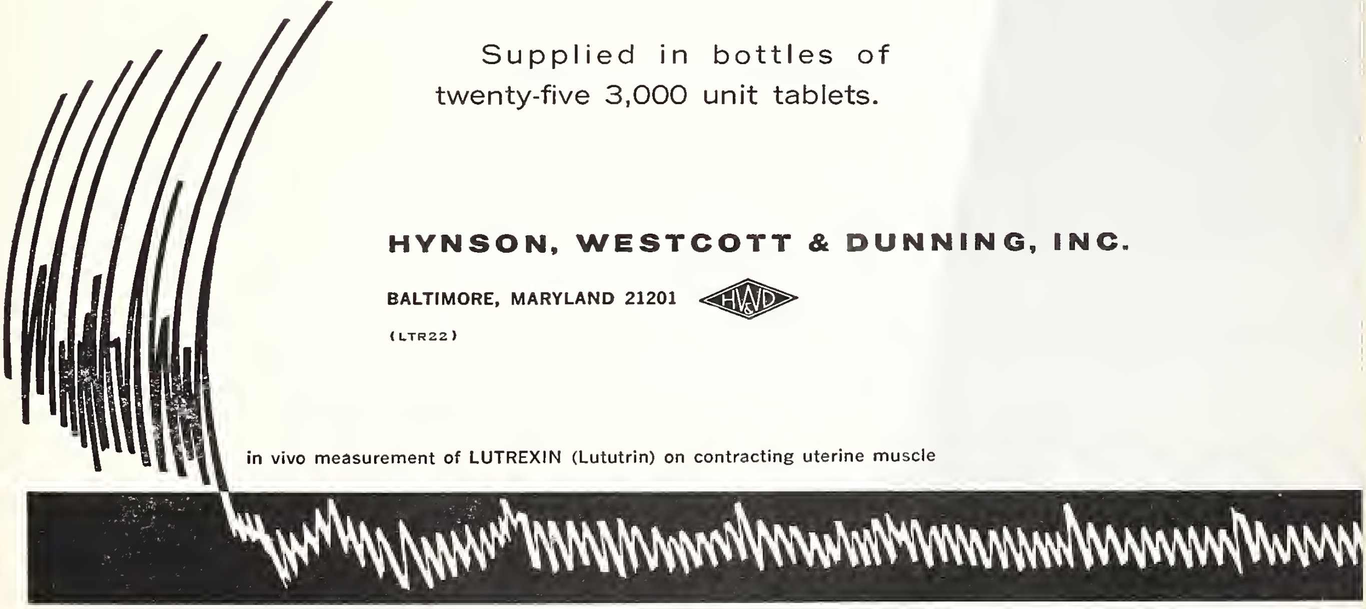

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Missouri Medicine

THE JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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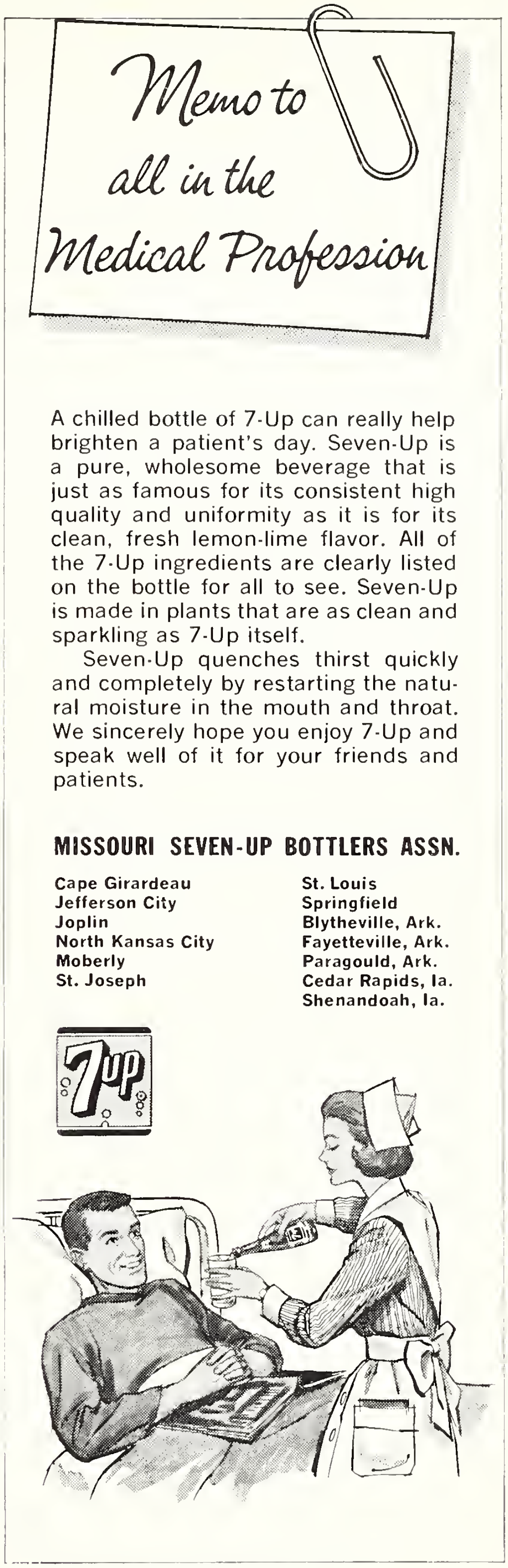

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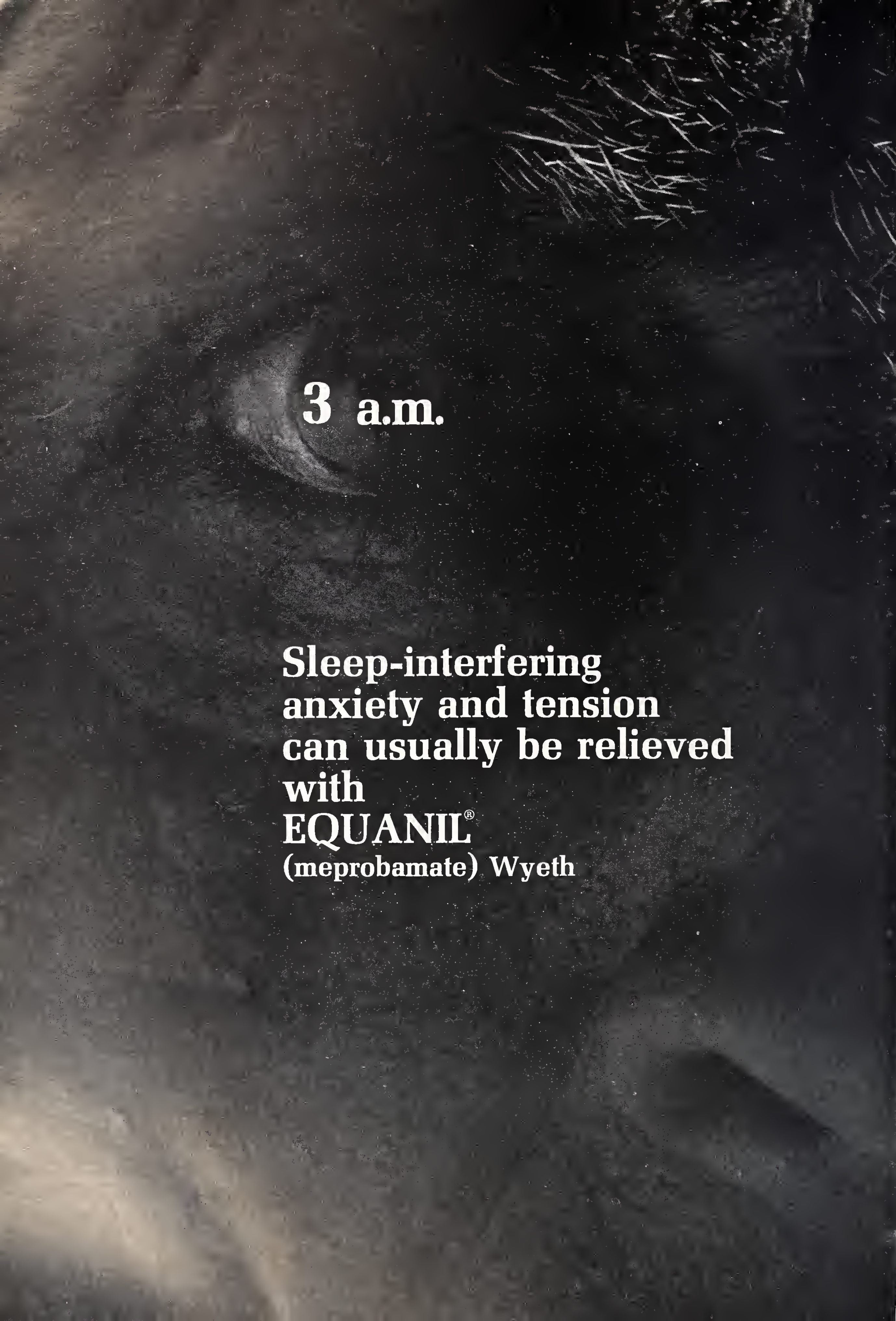
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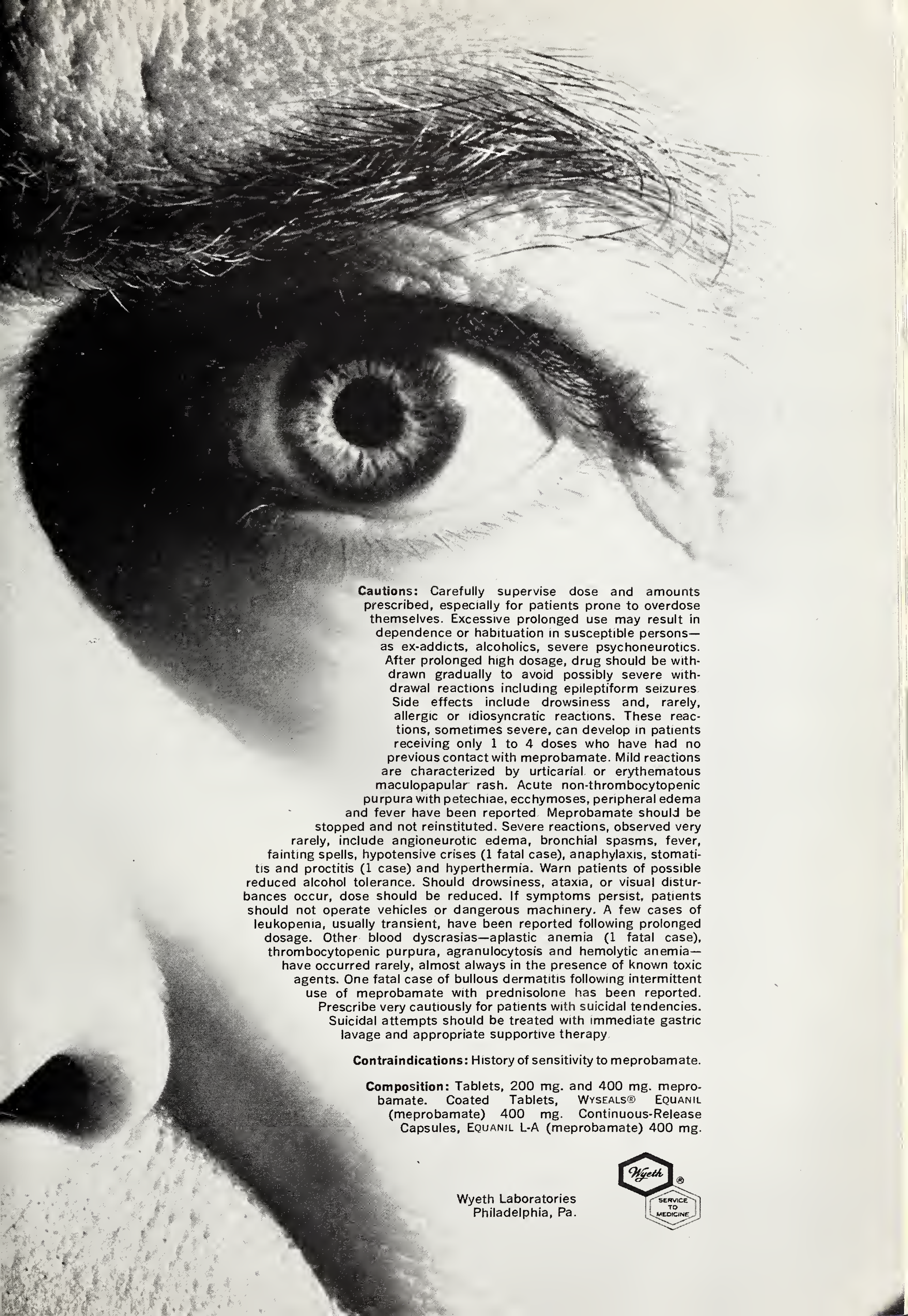

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IN THE LEGISLATURE

SB 52, 53, 54 and 55—Governor Hearnes' proposals for the first step toward implementation of Title XIX. SB 52 and 53 have been passed by the Senate and are now being considered by the House Social Security and Retirement Committee. SB 54 and 55 are in line for passage by the Senate.

SB 63—To regulate and control hallucinogenic drugs. Has been passed by the Senate and is now being considered by the House Public Health and Safety Committee.

SB 74, 75 and 76—Bills to establish a State Board of Health, to revise qualifications for the Director of Health and to increase Director's salary to $25,000. The key bill in this series (74) appears to be in trouble and is being held by the Senate Economics and Major Expenditures Committee. The Bill has been severely amended since its introduction.

SB 101—To increase salary of the Director of the Division of Mental Diseases to $35,000. Bill is in line for passage by the Senate.

SB 122—To permit institutionalized mental patients to be placed in their own family homes with the state continuing to pay for their care. Has been passed by the Senate and is ready for final passage by the House.

SB 302—To require one year of "clinical training" for candidates for medical license in Missouri. Being studied by the Senate Public Health and Welfare Committee.

HB 94—The St. Louis-Kansas City proposal for implementation of the basic welfare provisions of Title XIX. Being held by the House Social Security and Retirement Committee.

HB 152—Physical therapist licensure plan. Passed by the House and now under consideration by the Senate Public Health and Welfare Committee. Missouri State Medical Association, Missouri Association of Osteopathic Physicians and Surgeons and the State Board of Registration for the Healing Arts will oppose establishment of an independent physical therapist's board, but will offer a substitute proposal. The substitute would provide for everything which the therapists are seeking, but would do so under the aegis of the Board of Healing Arts. This is the so-called "umbrella" plan which could be utilized for other paramedical groups which seek licensure, registration or certification.

HB 440—To establish a state medicolegal examiner system. In line for final passage by the House.

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(name)
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(name)
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Special Report

Socio-Economics of Health Care

Having heard in two days of conferences the unedited personal opinions of 24 major discussants and four keynote speakers, this reviewer felt proud that the American Medical Association had sponsored an ambitious program which had encouraged and provided an opportunity for the free discussion of health policies which may well determine the nature of future American health care. All Missouri physicians should reflect at length and depth on the content and implications of the papers herein reviewed. The purpose of this report is to abstract their content, not to editorialize upon their intent.—Author

With an attendance exceeding 1,400 physicians, nurses, social workers, sociologists, economists and representatives from many other fields participating in health care, the First National Congress on the Socio-Economics of Health Care was held at the Palmer House, Chicago, Illinois, on January 22 and 23, 1967. Sponsorship was by the Council on Medical Service and Division of Socio-Economic Activities of the American Medical Association and its objectives were: (1) to signify the medical profession's ongoing concern for the effective organization, delivery and financing of health care services, and (2) to bring together authorities from medicine, health care administration, social science, education, community planning and other disciplines to report on new issues and techniques in this area.

Divided into four general sessions which dealt with (1) Orientation and Overview, (2) The Hospital and Its Changing Role in Health Care, (3) Mobilizing Health Manpower and (4) Financing of Health Care Services, twenty-four separate papers dealing with various aspects of these subjects were given in addition to four opening orientation addresses. The variety and detail of subjects presented would take an entire issue of this Journal if reported in detail or, perhaps, even in summary. The scope of this report will, therefore, be some general comments on the philosophy of the meeting as a whole and some comments about specific points made by the lecturers in dealing with cardinal issues.

The speakers represented many different disciplines in the field of health care. They were given the freedom to speak as they saw fit, the Congress being interested in a sampling of opinions, a definition of problems, possible methods of solving the problems and different viewpoints on the same problem.

Several interesting papers concerning the statistics of measuring the nation's health, the measurement of hospital systems and quality, the medical staff and quality of care, techniques for assessment and validity and limitations were presented in admirable fashion by their authors, but they were of such detailed technical nature as to preclude abstraction for this article.

Speaking about the nation's health manpower, **Dwight L. Wilbur,** M.D., Clinical Professor of Medicine of the Stanford University School of Medicine, said:

"Almost 300,000 physicians with their office and emergency care facilities, over 2½ million allied health professional and technical personnel, almost 8,000 hospitals with 1¾ million beds, several thousand nursing homes, rehabilitation centers and day-care facilities are directly involved in the minute-by-minute provision of health care to the American people. With an ever-increasing diagnostic and curative—and with an increasing demand for health services, it is proper that all segments of society give attention to the changing social philosophy and expectations as to the quantity and quality of medical services, the best organization for the delivery of these services and the education and efficient utilization of manpower to meet the health needs. This First National Congress on the Socio-Economics of Health Care must of necessity give particular attention and emphasis to the matter of forthright planning for those who are to deliver health care.

". . . Widespread concern with medical manpower has extended beyond that of the growing need for physicians. We are now equally, if not more so, concerned with the training and effective utilization of those professions and services supportive to the physician in providing medical care. Technological advances in diagnostic and therapeutic procedures, in rehabilitative activities and changes in our methods of delivering patient care in the home, hospital and nursing homes, have multiplied many times the number of personnel needed in the health team.

". . . Not only are there many more Americans for whom health services must be provided, but many of these people are in those age groups, the very young and the old, which require the greatest amount of medical services.

". . . The annual expenditure on health and medical services in this country increased from $13 billion in 1950 and $27 billion in 1960, to almost $40 billion in 1966. Private spending for personal health care in the United States was more than $26 billion, or about 6% of personal consumption expenditures. Expressed in another way, per capita expenditures for health care were approximately $200 last year.

". . . It is of interest to note that at the present the physician-population ratio in the United States is approximately one per 670.

". . . Social demands and scientific advances are forcing the physician more and more into the role of a manager—a role for which he has not been specifically trained and which is new to his tradition. As the managerial function increases, so does the physician's dependence upon others. It is, therefore, paramount that each member of his supportive team perform to specifications, and that their skills interlock in the right way at the right time.

". . . The physician needs to re-examine his activities and determine those which must be done by him and those which could best be done by others while maintaining the desired level of patient care. From such studies will emerge the beginning answers to our medical manpower problem.

". . . There are now 89 medical schools in the United States with the erection of ten new institutions since 1947 and the conversion of a former osteopathic college to a medical school. By 1970, an additional 13 schools will be in operation; six more are virtually assured and another six are possible by 1975. Approximately 25 others have been proposed. . . . In 1964-65, the 88 schools here had a total enrollment of more than 32,000 students, and in 1965, they graduated a record number of 7,409 new physicians and guided the training of thousands of interns and residents. It is estimated that there will be 8,000 annually by 1970, 9,000 by 1973 and 10,000 by 1975.

". . . Medicine will always be faced with new challenges necessitating departure from venerable past traditions, in order to evolve new patterns and abandonment of previously applicable attitudes, techniques and goals to forge new tools and new strategies in its relentless pursuit of excellence."

Discussing the hospital and its changing role in health care, **Dr. Victor W. Sidel**, Chief of Preventive Medicine Unit of Massachusetts General Hospital, dealt in techniques for the assessment of such care, the validity and limitations of methods used. Dr. Sidel referred to the early efforts of Dr. Ernest A. Codman of the surgical staff of Massachusetts General Hospital who, in 1918, published a book, "A Study in Hospital Efficiency."

Dr. Codman suggested the formation of an "efficiency committee" to be composed of members of the medical staff, the administration and the Board of Trustees which would assume the "disagreeable duty" of analyzing the quality of hospital care on an intensive case by case basis. He suggested as criteria an "end result" or "out come" analysis to determine the efficacy of both professional and hospital services.

Currently, other methods of analysis, such as the statistical approach, the record review approach (medical audit) and the practice observation approach are being utilized. Dr. Sidel felt that the difficulty with these increasingly used assessments of structure and process is that they tell little about the value of the structures and processes they demand.

"All these techniques of assessments can ask is whether the best of the conventional wisdom about organization of hospital, about record keeping, about single-unit transfusions, about performance of rectal exams is being practiced. Such assessment can tell us practically nothing about the value of the conventional wisdom. At worst, such techniques tend to institutionalize the conventional wisdom, to put a premium upon doing things the way the professor or the committee or the auditors think it should be done. At best, valuable structure and processes are strengthened and supported. This is, therefore, not an argument against the use of these techniques. They are usually the best we have to offer in assessment of care, and they ought to be used more widely."

Discussing "Hospital Patient Care and the Relevance of Social Science Research," **Andrew D. Hunt, Jr.**, M.D., Dean of the Michigan State University of East Lansing, Michigan, expanded in considerable detail. Some cardinal statements from his presentation follow:

"All physicians who hospitalize their patients firmly desire them to receive the best possible patient care. Furthermore, most physicians are satisfied that in their own hospitals their patients do receive excellent care. This assumption is made because of the conviction on the part of physicians that good patient care is almost automatically a result of good and attractive hospital architecture, functioning air-conditioning, modern equipment, numerically adequate nursing and because the appropriate prescription has been written in the order book, the diagnostic test has been properly performed or the surgical procedure has been successfully completed. In other words, it is assumed that adequate technical doctor care equals good total patient care.

"The purpose of this presentation is to question this assumption and to introduce the physician to evidence which suggests the need for considerable research and modification of present practices and administrative concepts before we can be satisfied that our hospitals are providing the therapeutic atmosphere essential for the best care of our patients. Furthermore, this evidence will suggest that we physicians will have to be far more involved than has been our custom in planning and administering hospital patient care.

". . . While physical and architectural factors are of great significance in quality of hospital care, more important is the way in which physicians, nurses, dieticians and all others on hospital staffs work together to provide the ministrations, transactions or manipulations required by the patients during their stay in the hospital. Such coordinated efforts range all the way from providing hot food within reach of the disabled patient to the intense and skilled teamwork called into action by the needs of a child unexpectedly developing high respiratory obstruction."

Looking further into the forces at work in shaping the demands upon health care, **James L. Dennis**, M.D., Dean of the University of Oklahome School of Medicine, discussed "The Shifting Social Scene: Its Impact on the Health Care System." He summarizes:

"We have observed that it has been the development of modern medical science and technology that ignited the population explosion, that explosion control remains an unmet responsibility, that population increases have created most of the primary forces affecting the health care system, but that public expectations and attitudes are the most powerful forces in molding the patterns of health care, that our own reactions have had an important influence on the attitudes and expectations of the public, that medicine has the responsibility to participate in cooperative planning for the future and we have presented the precepts of the Oklahoma Plan that is based on a considered response to the health needs of its state society.

"Advancements in science and technology have stimulated social change, the medical profession has tried to resist social change, sociologists have tried to direct social change and the 'neo-social-politicians' have exploited social change. I suggest that the time has come for all to recognize the necessity of more intelligent and responsible adaptations. This Conference represents a significant step in this direction."

Pointing out the specific steps taken by the University of Oklahoma School of Medicine in cooperating in health planning for the rural community of Oklahoma, **Thomas C. Points**, M.D., Ph.D., Coordinator of Project Responsibility of the University of Oklahoma Medical Center, outlined specifically that project responsibility "was a four-phase plan charged with operating a pilot model health facility in a typical rural Oklahoma community."

In Phase I of the operation in cooperation with appropriate public and voluntary health agencies, a complete inventory of state and community health needs was made.

Phase II involved the projection of current and anticipated health needs based on (1) the findings of the study of Phase I, (2) needs and expectations of the public, (3) needs and expectations of the professions, (4) needs of the University and (5) the social forces at work.

Phase III will re-evaluate the medical school curriculum and hospital training programs on the basis of the previously demonstrated documented needs.

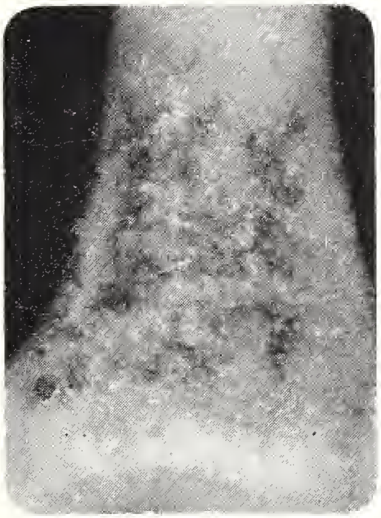
Phase IV provided for the pilot and study programs in the "packaging" of medical service in a "have-not" rural area, using such a rural community health center in the context of the modern concept of family medicine care, developing a department of family medicine care in the medical school, a continued study of efficiency and economy of medical services provided in the rural setting, providing exemplary medical care in the rural setting, attracting family physicians to rural areas and stimulating rural communities to participate in improving their own cultural environment.

It is the opinion of this reviewer that medical and educational leaders in Missouri could well review the Oklahoma Plan or a similar plan as a method of discharging our community responsibilities.

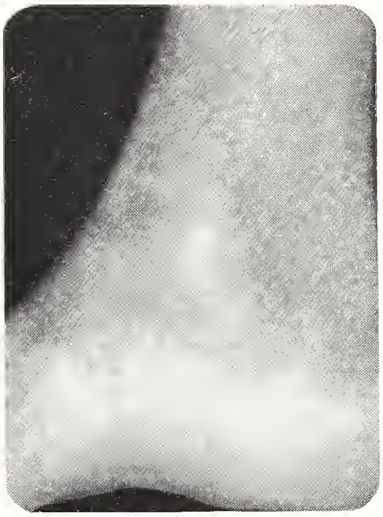
Turning to the problems of development of specialized ancillary personnel, **Fred J. Spencer**, M.D., M.P.H., Professor and Chairman of the Department of Preventive Medicine of the Medical College of Virginia, discussed the physician-assistant, a paramedical person who could perhaps be developed through careful training and supervision to render certain types of simple medical care in the more primitive community.

Dr. Spencer developed the historical aspects of the medical assistant, showing how the British Colonial government of the Fiji Islands had taken high school graduates, placed them in the Fiji School of Medicine and developed individuals competent to give first line medical assistance in the personage of the "Fiji assistant medical officer." Similarly in New Guinea, illiterates had been trained to diagnose fairly common diseases and to administer a treatment protocol designed by medical doctors who, of course, supervised the total activities of their assistants. Dr. Spencer felt such a system might have great merit in numerous developing or emerging coun-

Eczema of many years...
controlled in two weeks



Before treatment



After treatment —
with ARISTOCORT Topical
Ointment 0.1% for two weeks

ARISTOCORT® Triamcinolone Acetonide Topicals have proved exceptionally effective in the control of various forms of eczema: allergic, atopic, nummular, psoriatic, and mycotic.

In most cases responsive to topical ARISTOCORT, the 0.1% concentration is sufficiently potent. The 0.5% concentration provides enhanced topical activity for patients requiring additional potency for proper relief.

Administration and Dosage: Apply sparingly to the affected area 3 or 4 times daily. Some cases of psoriasis may be more effectively treated if the 0.1% Cream or Ointment is applied under an occlusive dressing.

Contraindications: Tuberculosis of the skin, herpes simplex, chicken pox and vaccinia.

Precautions and Side Effects: Do not use in the eyes or in the ear (if drum is perforated). A few individuals react unfavorably under certain conditions. If side effects are encountered, the drug should be discontinued and appropriate measures taken. Use on infected areas should be attended with caution and observation, bearing in mind the potential spreading of infection and the advisability of discontinuing therapy and/or initiating antibacterial measures. Generalized dermatological conditions may require systemic corticosteroid therapy. Steroid therapy, although responsible for remissions of dermatoses, especially of allergic origin cannot be expected to prevent recurrence. The use over extensive body areas, with or without occlusive nonpermeable dressings, may result in systemic absorption. Appropriate precautions should be taken. When occlusive nonpermeable dressings are used, miliaria, folliculitis and pyodermas will sometimes develop. Localized atrophy and striae have been reported with the use of steroids by the occlusive technique. When occlusive nonpermeable dressings are used, the physician should be aware of the hazards of suffocation and flammability. The safety of use on pregnant patients has not been firmly established. Thus, do not use in large amounts or for long periods of time on pregnant patients.

Available in 5 Gm. and 15 Gm. tubes and ½ lb. jars.

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tries, perhaps, in unusual specific instances, might be used in more highly developed countries. He cited as a latter example the Russian feldsher who had started as a regimental military surgeon and had progressed in the present day Soviet culture to sort of an assistant to a physician.

Dr. Spencer felt that currently in the United States a counterpart of the physician-assistant might be (1) the military medical corps men, (2) the public health nurse, (3) a hospital based medical assistant, an example of which might be a layman trained to assist at a specific task in an operating room or a diagnostic laboratory.

A specific application of this approach was described in some detail by **Dr. John W. Green, Jr.**, Chairman of the Department of Obstetrics and Gynecology of the University of Kentucky School of Medicine. Dr. Green discussed the use of the nurse-midwife in the context of a specially trained lay person who, in a hospital atmosphere and under the direct supervision of a certified OB-GYN specialist, could assist in deliveries or, in the case of physician-diagnosed uncomplicated deliveries, do the entire delivery herself.

Expanding further upon the problems of health manpower requirements, **Brigadier General Robert A. Patterson**, Medical Corps, Director of Plans and Hospitalization of the Office of the Surgeon General of the United States Air Force, gave a highly interesting paper demonstrating how the Air Force had, through careful studies and systems analyses, developed various formulae by which they can anticipate their exact needs for personnel in specific types of medical missions. By means of a composite weighted work unit formula (CWU), 188 different categories of work output in the Air Force medical corps had been outlined and characterized as part of their management engineering program. They also had developed a labor productivity index for these different categories of service.

Having discussed in great detail the general orientation and overview of the health care system, the hospital and the mobilization of health manpower, the Congress next turned to the financing of health care services.

Carl R. Ackerman, M.D., the Chairman of the National Association of Blue Shield Plans, gave the orientation lecture on "Evolution and Perspective," stating that prepayments for health care plans were a fact and here to stay, though they were so recent that 98% of the evolution of formal financing mechanisms for health care that had taken place in this country had been witnessed by most of the people attending the Congress. Dr. Ackerman stressed most vehemently that the American Medical Association should do sophisticated studies on types of health plans possible. He saw only two options open to organized medicine, either to lead in the performance of such studies or to forfeit the right and, hence, have to sit on the sidelines and let other forces do the planning. He felt that since security was a primary drive in our society that the demand for plans that could produce comprehensive health care at a predictable cost would be unrelenting. One of his significant statements was:

> "I want you, the audience, and you, the speakers who follow, to share the sense of challenge before us all. I believe most firmly that the preponderance of the force and authority vitally interested in the financing of good medical care would prefer that the voluntary system not only survive but prevail and prosper. It is for this purpose that I appeal for cooperation and collaboration by all who desire to avoid the snares and pitfalls that have confronted other nations in the financing of health care."

Wallace S. Sayre, Professor and Chairman of the Department of Public Law and Government of Columbia University, described the decision-making law system in which the current health laws were made. Physicians, he felt, should be aware that no major policy area affecting the public was exempt from politics.

Professor Sayre described the basic characteristics of the decision-making law system as being:

> "(1) a competitive system, (2) a system carried out under the rule of the constitution, (3) a predictable system, (4) a system under which one must be prepared to bargain, (5) a system in which strategies are matched to the resources of the bargaining parties, (6) a system in which decisions reached are almost always compromises and, therefore, the idealists were always unhappy with the decisions arrived at, (7) a system in which all decisions were tentative because, as soon as decisions are made, immediate discussion arises as to the meaning of the ambiguous terms in the agreement and the immediate challenge to re-bargain those issues, (8) a system in which it is the obvious wish of all to retain the essentials of the system though they have suffered a recent loss."

Dr. Sayre also felt physicians should be cognizant of the structural components of the present legal health care system.

The centers of power of this health care system are: "(1) the President of the United States and his staff, (2) the Congress and its committees, (3) the courts, (4) the various government bureaus and their leaders: (a) Social Security, (b) Food and Drug Administration, (c) Department of Health, Welfare and Education including the Public Health Service, (5) the major political parties, (6) the interest groups, (7) the communication media, who are usually not neutral though they occasionally try to be." Dr. Sayre felt that there were no giants in this system, that no one could make decisions except by alliances and by bargaining. He felt most emphatically that the medical profession should be intimately aware of the characteristics he had described, learn to work within the framework of the system and that, if the medical profession learned to work effectively within the framework of this system, they would not be completely unhappy. He closed by reassuring us that the system is bearable.

It is the emphatic opinion of this reviewer that we should heed Dr. Sayre's advice and learn to become effective politicians. In evaluating the decision making-lawmaking system, Dr. Sayre felt that its strong points were that it was competitive, that it had openness, both the process and actors having visibility, the system never operating in private and there being the opportunity for anyone to get into the system if he pushed hard enough. Reading between the lines one could always tell who did what to whom. Another strong point was that, in the U. S. law making political system, the loser wasn't liquidated, in fact he might even be "paid off."

Rita R. Campbell, Ph.D., Archivist and Research Associate of The Hoover Institute of Economics, Stanford University, gave a monumental rendition on the economic environment of prepayment insurance as follows:

"There is nothing new in the juxtaposition of the words: 'goals, priorities and dollars.' They are a terse restatement of the classical economics doctrine that there are unlimited wants but only limited natural resources to supply these wants and that, therefore, choices must be made as to which goals are more important than other goals. Is it better to spend more on education, or on health, or on housing, or on national defense, or what you will?

"Federal government programs, each of which may be socially desirable, compete not only for the private consumer's dollar, but also for the same government dollar and even for labor from the same medical manpower pool. Today, government expenditures for domestic purposes are about $150 billion or over one-third of our total private consumption expenditures."

"Per capita health expenditures have increased in current prices from $84 in 1950 to $191 in 1964. Correction for changes in the price level shows that at least 75% of this is a real increase, reflecting greater utilization of health services.

"Per capita expenditures for health insurance have increased proportionately more than total expenditures for health, from roughly $6 in 1948, to $26 in 1958 and $52 in 1965. The percentage of national income spent for health insurance has risen from one-half to 1% in 1948, to 1.4% in 1958 and 2.1% in 1965. If national income continues to rise, dollar expenditure for health insurance will also rise.

"Almost two-thirds of health insurance coverage is negotiated by union-management collective bargaining contracts. By the end of 1964, 73% of all wage and salary workers had hospitalization, 70% surgical, 25% major medical coverage.

"In line with past pronouncements, the AFL-CIO continues editorially to support for the future a 'medically advanced and economically sound national health care program—a public program which will replace our fragmented, costly, inefficient and inadequate arrangements for health care with an acceptable nation-wide program of comprehensive, high-quality health services which is accessible to all Americans."

"During the past quarter century, a great debate has ranged in this country about the welfare state. I submit to you that our private enterprise system has brought this nation to a level of well-being which makes further debate about the welfare state passe, irrespective of what the merits of the debate may once have been."

Walter J. McNerney, President of the Blue Cross Association, examined critically the impact of Titles XVIII and XIX of Public Law 89-97. He felt that Title XVIII, by utilizing tax resources, cared for about 50% of the cost of health care of the aged. A needed change in Title XVIII was for an expanded ambulatory care benefit. Title XIX, he felt, involved only one-half the 50 states at the present time because the states had not crystallized their degree of participation, but he anticipated uniformity by 1970 or 1975. Potentially, it could care for 20% of the population.

A notable problem was in the state of New York where the income level of the legally defined medical indigents was set too high, tending to drain $217-million of the $275-million currently provided by the Congress of the United States. Mr. McNerney felt that under Part B of Title XVIII there was need to modify the deductible and the co-payment ratio. Certification and recertification requirements had best be modified.

Lawrence A. Hill, Director, Program in Hospital Administration, University of Michigan, discussed "The Private Market—Key Developments."

She doesn't feel she "suffers" from hypertension

Butiserpazide® lowers blood pressure so smoothly that patients are often untroubled by either disease *or* therapy

By switching patients to BUTISERPAZIDE you may be able to free them of much of the burden of hypertension. Clinical comparisons have shown that many respond with (1) smooth, uniform lowering of blood pressure[1]...at times to levels *below* those attained with previous therapy[2]; (2) "striking" improvement in such symptoms as headache, nervousness, palpitation and dizziness[2]; plus (3) "...lowered incidence of drug side effects."[2]

And there's an added advantage: the usual dosage is just 1 tablet once or twice daily, often without need for supplementary therapy. (BUTISERPAZIDE provides not only hypotensive and diuretic action, but a mildly sedative effect as well.) Isn't this the way to take the suffering out of hypertension?

You have a choice of 2 strengths:

Butiserpazide®-25
Prestabs®* Tablets

BUTISOL® (butabarbital) 30 mg. (½ gr.)†;
Hydrochlorothiazide 25 mg. (⅜ gr.); Reserpine 0.1 mg.

in mild to moderate cases, often effective at half the usual thiazide or thiazide/reserpine dosage.

Butiserpazide®-50
Prestabs®* Tablets

BUTISOL® (butabarbital) 30 mg. (½ gr.)†;
Hydrochlorothiazide 50 mg. (¾ gr.); Reserpine 0.1 mg.

controls many moderate to severe cases without any need for ganglionic blockers, or other more potent agents; if such agents are needed, their dosage can be cut in half.

---

*15 mg. of **Butisol** (butabarbital), plus the other ingredients, in outer layer; 15 mg. of **Butisol** (butabarbital) in a specially coated core for delayed action, to approximately equalize duration of action for all components.

Contraindicated in presence of renal impairment, peptic ulcer, ulcerative colitis, or mental depression, and in patients with porphyria or those sensitive to any component. **Warning:** Coated potassium tablets, sometimes administered in conjunction with antihypertensive therapy, may be associated with small bowel lesions which have led to obstruction hemorrhage, and perforation. Surgery has been required and deaths have occurred. Such tablets should be used only when indicated and when adequate dietary supplementation is not practical. They should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occur. **Precautions:** Exercise caution in hepatic disease, diabetes, surgery, coronary artery disease, epilepsy, E.S.T., and in patients receiving digitalis. **Side Effects:** Electrolyte imbalance, hyponatremia, hypochloremic alkalosis and/or hypokalemia, hyperuricemia and gout, bradycardia, drowsiness, skin rashes, hangover, systemic disturbances, weakness, leg cramps, diarrhea, epistaxis, dizziness, urticaria, dry itching skin, nausea, vomiting, palpitation, superficial skin bruises, headache, dehydration, paresthesias, photosensitivity, pancreatitis, jaundice, xanthopsia, thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia, nasal congestion, hypotension, lassitude, loose stools, anorexia, bizarre dreams, peptic ulcer, ulcerative colitis, mental depression. (Ammonium chloride, which may be administered to reverse hypochloremic alkalosis, should not be given to patients with hepatic disease.) **Before prescribing or administering, see package insert.** †**Warning:** May be habit forming. **Usual Adult Dosage:** Butiserpazide®-25 or Butiserpazide®-50: 1 tablet daily or b.i.d. **References:** 1. Johnson, H. J., Jr.: Penna. M. J.: 67:35, 1964. 2. Coodley, E. L.: Curr. Ther. Res. 4:460, 1962.

McNEIL

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FORT WASHINGTON, PA.

". . . In spite of a three-fold growth in the amount of dollars spent during the past 15 years, the private prepayment and insurance industry finances slightly less than one-third of the total expenditure for personal health services, the rest coming directly from the patient's pockets. For some types of care (acute short term hospitalization and doctor service in the hospital) private financing is quite pervasive and quite good. For other types of care (psychiatric, extended care, office visits, dental and prosthetic devices) coverage is neither pervasive nor good.

" . . . A second kind of gap in coverage exists relative to groups in the population. The private sector was unable or unwilling adequately to meet the needs of some of the aged. Government, following its traditional role of gap-filling, stepped in. Other groups which have inadequate coverage of any sort are chronically low income and/or unemployed, sporadically unemployed and many self-employed of moderate or low income.

". . . In economics parlance, there is growing consumer demand for a more comprehensible, more accessible system of a broad range of health services and a comprehensive financial system to underwrite it. . . . The nation's people want the benefit of these services and they want to pay for them without mortgaging their family's financial future."

Expanding upon this theme, **Mr. Martin D. Miller,** Vice-President and Associate Actuary of the Equitable Life Assurance Society of the United States, reflected on "Patterns for the Future."

". . . Adequate health care for all Americans has been moved from the realm of a debatable social issue to a position of public policy. This is a profound fact. The institution of private health insurance knows this. The insurance industry is clearly aware today that it is living in a time of transition—an age of shifting social, economic and political realities, which envelop all who are concerned with health care, be they providers, consumers or insurers.

"In consequence, private health insurance is now rapidly moving away from what—at least in the public mind, if not in fact—has been considered as confirmed opposition to government involvement in health matters and toward a cooperative, participative arrangement whose scope and direction are not yet clearly perceived.

". . . not in limited terms of our ability to meet the needs of a small segment of the population, but with a full determination to help meet the needs of society as a whole.

"We are in the process of changing from solely a financing mechanism to a broader social instrument—from a limited perspective of our role to a new self-awareness of what we, as trustees of so large a share of the public's health funds, can and shall do to improve the effectiveness of care.

"We believe the public expectation that adequate health care should be available to everyone is legitimate and we know it presents a new and dramatic challenge for mutual planning and cooperative effort between government at all levels, on one hand, and all voluntary health interests, on the other.

". . . The private health insurance industry stresses the vital and immediate need for intensifying efforts to extend private insurance protection to those still not insured or under-insured against the cost of health care.

"Insurance companies are being urged by their Association (Health Insurance Association of America) to re-examine realistically their present coverages and procedures and, particularly, to give urgent and serious attention to: (1) Stressing the need for adequate coverage; (2) Escalating efforts to extend insurance to people presently not insured or underinsured; (3) Creating new and better marketing approaches and techniques to help meet the needs of the public; and (4) Reducing contract and underwriting restrictions so as to make insurance increasingly available to more people.

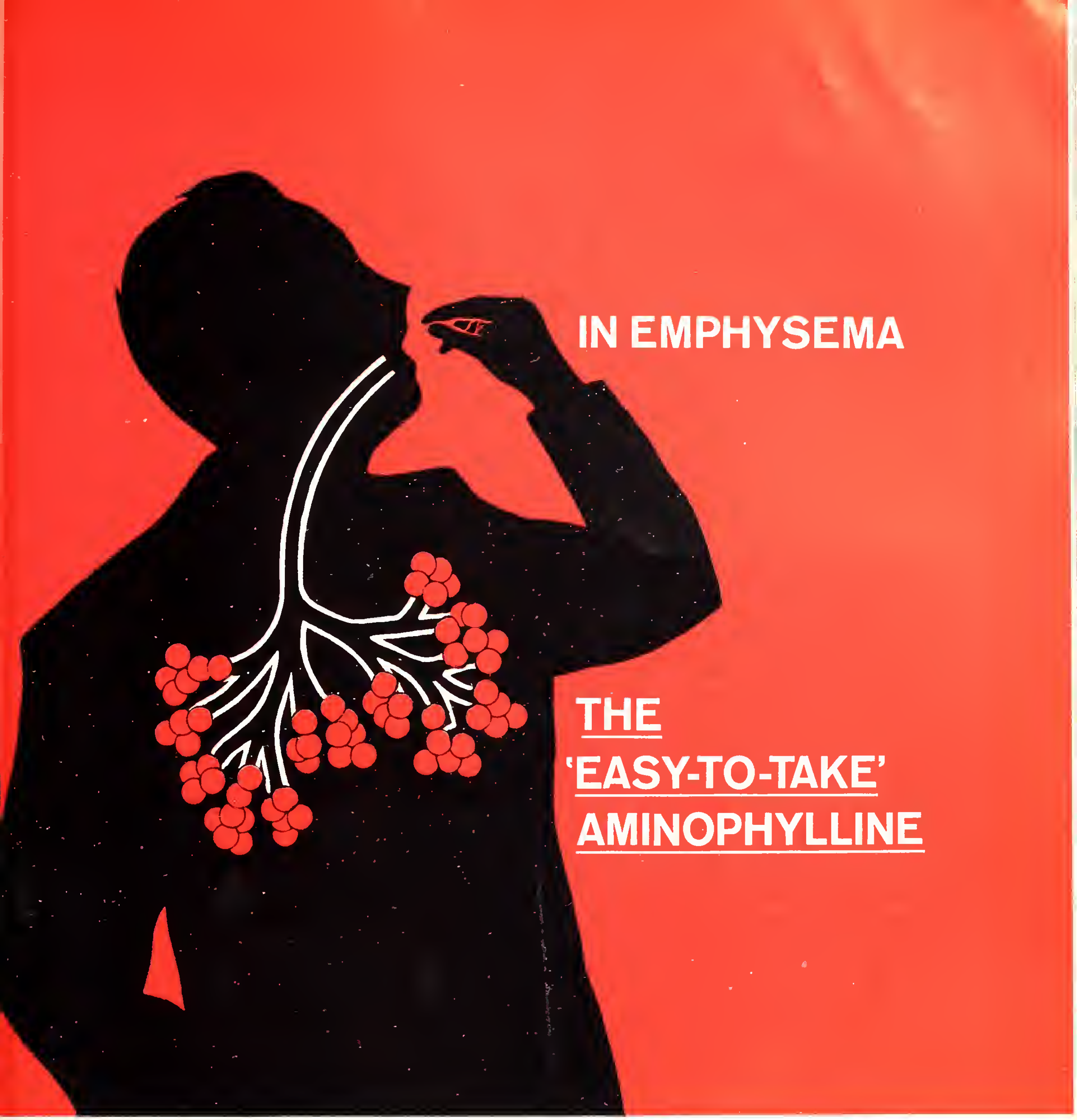
". . . By the close of 1966, an estimated 159-million persons in this country, 82% of the United States civilian population, had some form of voluntary health insurance. Of these, 94% also were insured for surgical expenses, in addition, some 72% were covered for regular medical expenses and 35% had major medical protection. . . . It is estimated that out of every $5 spent by these insured persons for hospital care, a minimum of $4 is paid by their hospital insurance. For physicians' services, the proportion paid by their insurance is about $1 of every $2. This breaks down further into about $4 of every $5 with respect to surgery, and about $1 out of every $4 for the cost of physicians' non-surgical services.

". . . The competitive nature of voluntary health insurance . . . stimulates new product development —major medical, dental care, out-patient, mental illness coverage . . . and who knows what tomorrow!

" . . . Now what about the costs? Certainly, no subject in the health care field has attracted more editorial interest and public concern than the rapidly rising medical care cost picture. Clearly, we must assume the initiative and bend our imaginations to ways of encouraging the public to place a higher priority on expenditures for health care. This means demonstrating the value of better care at the most reasonable cost in terms which the public will understand and accept. . . . We must also show a determination to identify and eliminate wasteful influences or practices which tend to inflate costs.

"Here health insurers, as trustee-representatives of consumers, have a major and direct role to play, through sound contract design and effective claims administration."

". . . We are acutely aware, however, that any such goal can be achieved only by close and realistic cooperation among and with the medical and allied professions and all other providers of health care. Challenge is the cornerstone of progress. We invite you to join with us in building the future."



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Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH

Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

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medical melange

Notes of interest from Here . . . . and There

Dr. Oscar P. Hampton, Jr., St. Louis, has been named to the new 10-member Committee on Emergency Medical Services by the American Medical Association. Dr. Hampton also was reappointed a member of the Council on National Safety. Other Missourians in the AMA news are **Dr. Wendell Scott**, St. Louis, appointed a member of the Council on Voluntary Health Agencies; **Dr. Sol Sherry**, St. Louis, reappointed a member of the Council on Drugs; and **Rev. Thomas F. Zimmerman, D.D.**, Springfield, reappointed a member of the AMA Committee on Medicine and Religion.

Dr. Clint L. Miller, Lee's Summit, was one of 30 persons asked to serve on a citizens' committee to the Board of the Metropolitan Junior College. The 30 persons selected were from a list of 162 recommendations made by board members and interested groups throughout the junior college district.

Dr. Edward E. Mardini, presently serving in the Army with the Sixth Medical Center in Viet Nam, plans to practice medicine in Bonne Terre upon his return to the United States in July. He will be associated with **Dr. Van Taylor** and **Dr. Jack Mullen.**

Dr. O. J. Miller, Cape Girardeau, has retired after 61 years of practice, largely in Cape Girardeau and Perry counties. Dr. Miller first practiced medicine in Stuart, Oklahoma, as physician for a pipeline company that was building a line from Tulsa to Port Arthur, Texas, one of the first in the country. The story of his colorful life and career was told recently in a feature story titled "Dr. Miller's Life: A Medical Romance," published in the Cape Girardeau *Southeast Missourian.*

Dr. R. Hart Donnell, Crystal City, has been elected to serve as Chief of Staff for a two-year term at Jefferson Memorial Hospital. He succeeds **Dr. Roger H. Albee. Dr. Garrett Pipkin**, Kansas City, is now Chief of Staff at St. Joseph Hospital.

Dr. Julien A. Ossman was presented the "Outstanding Doctor of the Year" award by the Sisters of St. Mary, St. Mary's Hospital in Jefferson City. Dr. Ossman has been on the staff of the Hospital for 35 years and served last year as Chief of Staff, a post he has held several times. The sisters' "Man of the Year" award was presented to **Mr. Alex Vetter**, a member of the Hospital Advisory Board.

Morton D. Pariera, M.D., Surgeon-in-Chief at The Jewish Hospital of St. Louis and Professor of Surgery at the Washington University School of Medicine, has been named full-time Chairman of the Division of Surgery at Philadelphia's Albert Einstein Medical Center and Professor of Surgery at the Temple University School of Medicine with which the Medical Center is affiliated.

She simply sits while the party goes on around her, already used to being the girl who is left out. She tries to lose weight—but her emotions won't let her. She becomes irritable and depressed when she doesn't eat, and anxious when she considers her future. So each time she gives up.

"What can I do?" she asks when she visits your office. "How can I ever stay on a diet and lose weight?"

A PARTICULAR COMBINATION OF ACTIONS

Ambar #2 Extentabs®

methamphetamine hydrochloride 15 mg., phenobarbital 64.8 mg. (1 gr.)
(Warning: may be habit forming).

FOR THE NEEDS OF THE DIETING WOMAN

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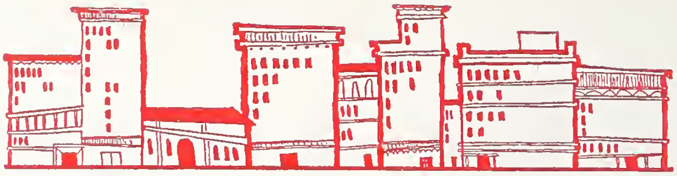
A·H·ROBINS

Ambar is formulated to specifically meet both the physical and emotional needs of the woman who is trying to lose weight. *Methamphetamine hydrochloride* has a powerful suppressant effect on the appetite and also provides a gentle psychic lift to improve mood and encourage activity. The *phenobarbital* component, through its classic calming action, helps control irritability and anxiety, and helps counteract excessive CNS stimulation.

Also available: Ambar #1 Extentabs®—methamphetamine hydrochloride 10 mg., phenobarbital 64.8 mg. (1 gr.) (Warning: may be habit forming).

BRIEF SUMMARY / *Indications:* Ambar suppresses appetite and helps offset emotional reactions to dieting. *Side Effects:* Nervousness or excitement occasionally noted, but usually infrequent at recommended dosages. Slight drowsiness has been reported rarely. *Precautions:* Administer with caution in the presence of cardiovascular disease or hypertension. *Contraindications:* Hypersensitivity to barbiturates or sympathomimetics; patients with advanced renal or hepatic disease. See package insert for further details.

From the Medical Schools



ST. LOUIS UNIVERSITY

Establishment of the Ralph A. Kinsella, Sr. Center for Experimental Medicine as a memorial to the late Professor and Director Emeritus of the Department of Internal Medicine at the St. Louis University School of Medicine has been announced.

Kinsella Center will encompass the entire second floor of a new medical research building currently under construction at Grand and Vista Avenues. Its establishment was made possible by a gift from John E. and Adaline Simon. Mr. and Mrs. Simon have long been interested in the study and practice of medicine.

Dr. Kinsella, a physician in St. Louis for 55 years, died September 5. He was the Simons' personal physician.

The Center will contain 7,052 net square feet of laboratories, office and special purpose space. Ten laboratories will offer opportunities for research in endocrinology, infectious diseases, allergies, cardiac chemistry, medical biology and pulmonary disease.

New research which will attempt to find out what causes edema (accumulation of fluid) of the brain is being undertaken with the electron-microscope by Dr. Paul A. Young, Associate Professor of Anatomy and Associate Professor of Neuroanatomy in Neurology and Psychiatry at the School of Medicine. A United States Public Health Service grant of $25,000, recently awarded for the first of a two-year period, will support these investigations.

Dr. Young is conducting the study in an attempt to determine why the build-up of edema is present between the cells and fibers of the cerebellum in connection with brain injuries, tumors and other diseases. In a prolonged investigation, he is attempting to determine whether the accumulation of fluid is a neurovascular or neurocytogenic phenomenon.

WASHINGTON UNIVERSITY

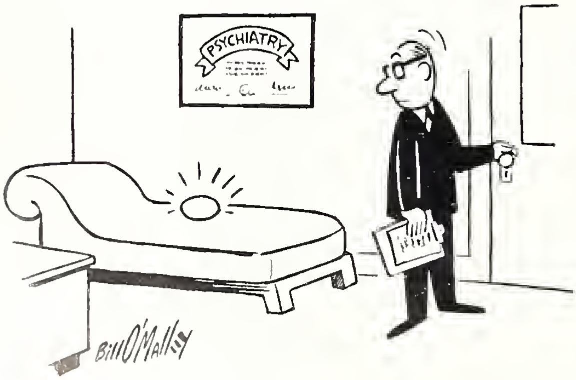
Washington University School of Medicine has been granted more than $1.5 million by the Public Health Service for research on heart and blood vessel disease.

Dr. John R. Smith, Professor of Medicine and Co-director of the Division of Cardiovascular Disease, said that about $278,000 will be received this year, with another $210,000 to come each of the next six years. Collaborating with Dr. Smith on the studies are Dr. Brent M. Parker, Associate Professor of Medicine and Co-director of the Division of Cardiovascular Disease; Dr. Duane C. Hellam, Assistant Professor of Medicine; and Dr. G. Charles Oliver and Dr. Umit T. Aker, Instructors of Medicine.

Specific projects being researched include seeking a method for estimating accurately the quantity of digitalis a heart patient has in his

PSYCHIATRIST

"THIS IS YOUR LAST VISIT, MR. WALLACE, YOU NO LONGER HAVE A BIRD OBSESSION."



"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

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system; monitoring techniques (by means of computerized systems) for persons who have suffered a heart attack; and working on lymphatic circulation and the role of congested heart flow in relation to the lungs and other aspects of circulatory apparatus.

Dr. Alfred I. Sherman, Professor of Obstetrics and Gynecology and Consultant in Gynecology to the Mallinckrodt Institute of Radiology, was honored recently for his 20 years of service to the St. Louis Maternity Hospital. Approximately 50 physicians attended a dinner given at the University Club for Dr. Sherman by the St. Louis Maternity Hospital Society.

Dr. Sherman, author of the book, "Cancer of the Female Reproductive Organs," published in 1963 and co-author of numerous publications, has accepted the position as Chairman of the Department of Obstetrics and Gynecology at Sinai Hospital and Professor of Obstetrics and Gynecology at Wayne State University in Detroit effective July 1, 1967.

MISSOURI UNIVERSITY

Dr. William M. Hart has been appointed Professor of Surgery and Head of the Section of Ophthalmology at the University of Missouri Medical Center. He succeeds Dr. Carl H. Ide, who has been acting chief of the section. Dr. Hart came from Bethesda, Md., where he had been Director of The Eye Research Foundation of Bethesda, a private institution affiliated with the University of Maryland. He will continue on the Board of Trustees of the Foundation.

Recently, he has also served as a research consultant to the Federal Aviation Agency; a member of the committee on vision, National Academy of Sciences, National Research Council; and a member of the program-project committee of the National Institute of General Medical Sciences.

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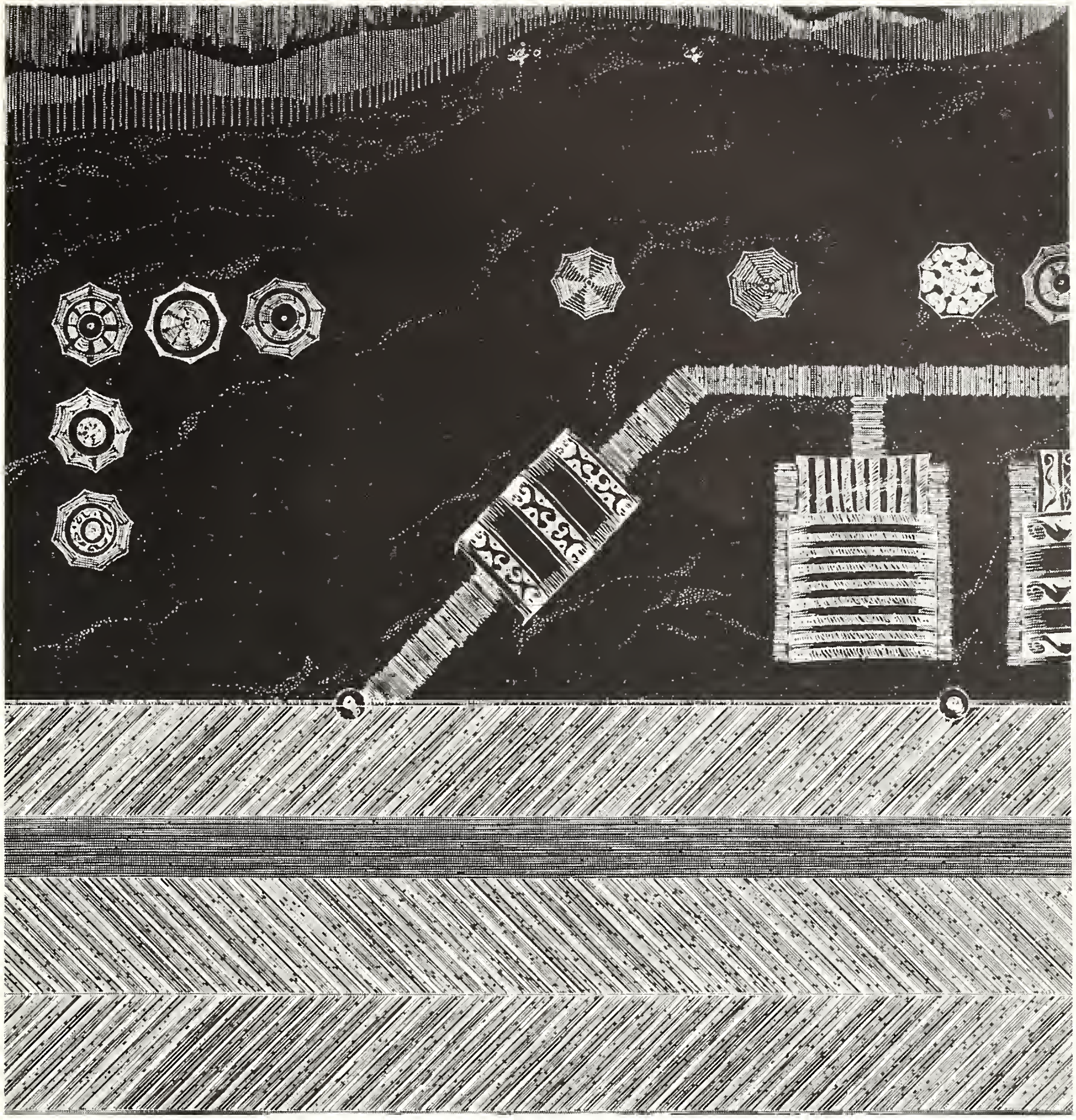

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May 11	**18th Annual Dr. F. G. Thompson, Sr., Lectureship** "Complex Supraventricular Arrhythmias: Recognition and Management"—Dr. Lewis E. January, Professor of Medicine, University of Iowa Thompson, Brumm & Knepper Clinic 902 Edmond St., St. Joseph
May 11-13	**14th Annual Meeting, Mid-Central States Orthopaedic Society** Sheraton Prom Motel, Kansas City
May 11-13	**Region VIII, American Academy Orthopaedic Surgeons** General Meeting Sheraton-Prom Motel, Kansas City
May 19-20	**Modern Trends in Medical Management** Department of Post-Graduate Education Menorah Medical Center, Kansas City
May 20-21	**Semi-Annual Professional Program** Ellis Fischel State Cancer Hospital and Holiday Inn West, Columbia
May 20-21	**Postgraduate Medical Study—Inhalation Therapy** University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kansas
May 24-26	**Postgraduate Medical Study—Epilepsy, Syncope and Related Disorders** University of Kansas Medical Center Kansas City, Kansas
June 10-15	**American Society of Radiologic Technologists** 39th Annual Convention Chase-Park Plaza Hotel, St. Louis
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GORONWY O. BROUN, JR., M.D., ***St. Louis***

Acquired Sideroblastic Anemia

A Review

The term, "*sideroblastic anemia,*" is one of many which have been used by different authors to designate a group of anemias associated with abnormalities of iron metabolism.[1] Other terms used have included "chronic refractory anemia with sideroblastic bone marrow" by Bjorkman,[2] "sideroachrestic anemia" by Heilmeyer[3] and "refractory normoblastic anemia" by Dacie.[4] Also included in this general category of anemias are the "Pyridoxine-responsive anemias" described by Harris,[5] and the anemia of plumbism.[6] This is a heterogenous group of diseases in which a fairly uniform hematologic picture is produced by a variety of biochemical abnormalities affecting the synthesis of the porphyrin ring of heme.[7] As a result, iron is poorly utilized in heme production. This results in the accumulation of non-heme iron in developing red cells.[8] Cells containing these accumulations are termed sideroblasts, hence the name of the syndrome. Abnormal iron utilization also may be shown by ferrokinetic studies using radioisotopes of iron. A number of situations will lead to anemias with these morphologic and physiologic characteristics. Some cases are hereditary,[9, 10] but these are outside the scope of this paper.

The present discussion will be limited to the group of anemias which appear during adult life and, apparently, represent acquired disorders. Toxicity of several types may produce this picture; in particular, lead poisoning and exposure to tuberculostatic drugs such as Isoniazid and Cycloserine.[11, 12] Occasionally, cases of this type of anemia also are reported in association with a variety of other hematologic disorders including leukemias, multiple myeloma, Addisonian pernicious anemia and acquired hemolytic anemias. Collagen diseases and malignancies of other organs occasionally may be associated with the sideroblastic bone marrows.[13] In many cases in the adult, no specific etiology can be determined. While iron loading is common to both conditions, this form of anemia is not a typical feature of hemochromatosis.[14]

Hematology

Regardless of the etiology in a specific case, the prominent feature of the syndrome is a moderate to severe anemia resulting primarily from

The fourth article of a series prepared by the Department of Internal Medicine, St. Louis University School of Medicine, to help the practicing physician realize a closer association with advances in the field of Internal Medicine. The author reviews the problems encountered in this group of patients, discusses biochemical mechanisms and gives a plan for management. Doctor Broun is Assistant Professor of Internal Medicine.

TABLE 1

ACQUIRED SIDEROBLASTIC ANEMIA—HEMATOLOGY

1. Peripheral blood
   - a. Anemia
     - Red cell indices may be hypochromic and microcytic or normochromic and normocytic, rarely slightly macrocytic
   - b. Erythrocyte morphology
     - Anisocytosis and poikilocytosis
     - Hypochromia and microcytosis
     - May be dual population of erythrocytes
     - Basophilic stippling
   - c. Reticulocytopenia
   - d. Leukocyte alterations
     - May be granulocytopenia
     - May be monocytosis
2. Bone marrow
   - a. Erythroid hyperplasia
   - b. "Maturation arrest" of erythroid series
   - c. Vacuolization of late normoblasts
   - d. Basophilic stippling normoblasts
   - e. Increased stainable iron
   - f. Ringed sideroblasts
   - g. Leukocyte abnormalities depend on etiology
3. Erythrokinetic data
   - a. Increased plasma iron level
   - b. Increased plasma iron turnover
   - c. Decreased appearance of iron in circulating erythrocytes (red cell iron utilization)
   - d. RBC life span—usually normal or only slightly decreased

ineffective erythropoiesis. Physical examination shows no abnormalities specific for this form of anemia. In some cases, there is some degree of hepatomegaly and/or splenomegaly. The major hematologic features are listed in Table 1.

PERIPHERAL BLOOD

The reticulocyte count is quite low. Red cell indices are quite variable from case to case, but, in the majority, the cells are hypochromic and microcytic. On the peripheral smears, a wide spectrum of morphologic abnormalities of the mature erythrocytes are seen. Anisocytosis and poikilocytosis may be extreme and many target cells may be present. A majority of the red cells appear to be hypochromic and microcytic although, on close inspection of smears, there may appear to be a double population of cells with the second population appearing normochromic and normocytic. At first glance, the peripheral smear may be indistinguishable from that seen in iron deficiency anemia. Only on further investigation is it found that, rather than iron-depleted, the patient is actually iron-loaded. Basophilic stippling of peripheral erythrocytes may be prominent, whether or not lead poisoning is the etiology of the anemia. Siderotic granules and other inclusions in the erythrocytes are not seen in the peripheral blood unless the individual has had a previous splenectomy. Even though tremendous numbers of iron granules may be seen in the developing red cells in the bone marrow, it would appear that the spleen is able to remove these granules from mature cells which reach the peripheral circulation.[15]

Changes in peripheral leukocytes are not uniform from case to case and may reflect varying etiological conditions.[4] In most cases, the peripheral leukocyte count will be normal or only slightly decreased, with the decrease due primarily to a granulocytopenia. Occasionally, a rather striking monocytosis may be seen, although at present it is not clear whether this represents a leukemic proliferation of the monocytes.[16, 17] In occasional cases, morphologic abnormalities of the mature neutrophils are seen.[16] The leukocyte alkaline phosphatase may be decreased.[4] Thrombocytopenia is usually not a prominent feature of these anemias.

BONE MARROW

The bone marrow picture is uniformly one of extreme hypercellularity due to erythroid hyperplasia.[4] The erythroid series, in addition to the striking hyperplasia, shows rather characteristic morphologic abnormalities. There is a picture of maturation arrest with the majority of the erythroid cells being quite immature and only a small number of late normoblasts. The few more mature nucleated red blood cells seen, polychromatic or orthochromatic normoblasts, frequently show marked deficiency of hemoglobin in the cytoplasm. As a result, large holes or vacuoles are seen in these cells. They also may show prominent basophilic stippling. Nuclear changes may be prominent in the nucleated red cells so that, in some cases, the cells appear megaloblastoid or even frankly megaloblastic. In other cases, there may appear to be abnormal clumping of the chromatin in the nucleus.

Another abnormality that has been found in a number of cases is the presence of PAS positive material in the cytoplasm of the developing erythrocytes.[18] This material is not seen in normal red cell precursors. When the Prussian blue stain is applied to the bone marrow, the most typical abnormality is found.[19] This is the occurrence of large numbers of "ringed sideroblasts." These are nucleated red cells which contain numerous Prussian-blue positive granules located in a ring partially or completely surrounding,

Fig. 1 Ringed sideroblasts in bone marrow from a case of acquired sideroblastic anemia (× 1300).

and adjacent to, the nucleus[13] (Fig. 1). This type of granule is frequently seen in nucleated red cells in normal marrows. However, in the normal the granules are neither as numerous, nor do they show the typical ringing around the nucleus. Rather, in normal cells, a very few are found scattered around the periphery of the cytoplasm. Bessis has shown by electron microscopy that these granules are large accumulations of ferritin, much of which is located in the mitochondria of the developing erythrocytes.[8] In addition, excessive iron may be present in the reticulo-endothelial cells of the bone marrow. In summary, the morphologic picture would appear to represent a bone marrow in which the erythroid series is incapable of utilizing iron for hemoglobin synthesis. As a result, iron accumulates in the nucleated red cells. These cells also show faulty maturation and ultimately produce hypochromic and microcytic cells as seen in the peripheral blood.

Erythrokinetic Data

As indicated earlier, the reticulocyte count in the peripheral blood is invariably low in these cases, giving evidence of a primary defect in red cell production. Studies of iron turnover and utilization using radioactive isotopes of iron also indicate a primary defect in iron incorporation into mature red cells. The serum iron levels in these patients are almost invariably high with high degrees of saturation of the iron binding protein. Following injection of ^{59}Fe, the rate of clearance of the injected isotope from the plasma is usually extremely rapid, indicating a rapid uptake of iron by bone marrow cells. Measurement of the appearance of the radioactive iron in circulating mature red cells over periods up to two weeks indicates very low percentages of incorporation, usually well below 50%, compared to normal levels above 75%. Thus, the pattern of erythrokinetics in these cases is quite similar to that described by Finch and co-workers in pernicious anemia, and that found by Sturgeon and Finch in thalassemia major.[20, 21] Sideroblastic anemias appear to result from "ineffective erythropoiesis" analogous to that seen in the latter two diseases, with a hyperplastic erythroid bone marrow in which destruction of maturing erythroid elements takes place in the marrow so that there is marked impairment of delivery of mature erythrocytes to the peripheral circulation. The studies relating to red cell destruction do not usually show a striking shortening of life span of those cells which do reach the peripheral circulation. In the majority of cases, ^{51}Cr labeled red cells have a survival time approaching normal, although rarely a marked hemolytic component may be present. A major exception is seen in the cases associated with lead poisoning in which red blood cell survival is decreased. Serum bilirubin elevation usually is not elevated. In several cases where it was studied, the excretion of urobilinogen in the feces was found to be increased.[3] This again suggests increased destruction of erythroid cells in the bone marrow since the levels found were well above those expected from the destruction of circulating erythrocytes.

Etiology and Diagnosis

A variety of etiologic mechanisms may produce a sideroblastic anemia. These are listed in Table 2. Many cases are idiopathic and also totally refractory to known forms of hematologic therapy. On the other hand, major benefit can be obtained in certain cases. It is essential that all patients be given a careful diagnostic evalua-

TABLE 2

Acquired Sideroblastic Anemias—Etiology

1. Plumbism
2. Abnormal pyridoxine metabolism
   a. Associated with tuberculostatic drug therapy
   b. Dietary deficiency
   c. Idiopathic
3. Neoplastic
   a. As a "preleukemic" state
   b. "Chronic monocytic leukemia"
4. Secondary to other hematologic disorders
   e.g., Multiple myeloma, acquired hemolytic anemia, etc.
5. Idiopathic

tion and an adequate trial with the various modalities of treatment.

One of the most easily treated of these anemias is that associated with plumbism. In this case, the history of ingestion or inhalation of lead can usually be obtained. Other suggestive points may be the history of gastrointestinal disturbances, neurological disturbances or renal disturbances which may be part of the clinical picture of plumbism. In some cases, a history of gout may be obtained, although this is not specific for the lead-induced form of sideroblastic anemia. Finding of a lead line in the gums may be of benefit, but this is not always present. X-ray changes in the long bones occur in children with lead poisoning, but not in the adult. The hematologic picture in cases due to lead poisoning is no different from that in other cases. Therefore, a high index of suspicion is needed. The diagnosis can be confirmed by measurement of blood and urine lead levels. These will provide the diagnosis, even though other features of classical lead poisoning are not present. Once a diagnosis of lead poisoning is established, chelate therapy can be started. With therapy, the anemia will improve rapidly as the lead is eliminated. Thus, it may be possible to avoid the dangers of blood transfusions in this group of patients.

Another form of the disease which is subject to treatment results from interference with pyridoxine metabolism. These cases may be divided into three categories. The first comprises those patients who have been on long-term, high-dose therapy with antituberculous drugs. The drugs most implicated in this situation are isonicotinic hydrazide (isoniazid), pyrazinamide and cycloserine. Beyond the development of anemia, the major clinical features will be those relating to the tuberculous process. In these cases, administration of supplemental pyridoxine and/or shift of the medication to other antituberculous drugs will lead to a rapid clearing of the anemia.[11, 12, 22] Very rarely, a true dietary deficiency of pyridoxine may produce this type of anemia.[23] The other group of patients in whom the anemia responds to administration of pyridoxine is of more uncertain etiology.[24] As will be discussed below, pyridoxine is essential for the synthesis of heme. Harris and his co-workers first reported the situation of an anemia in man which was refractory to other forms of therapy, but which did respond, at least partially, to high doses of pyridoxine.[5] The hematologic picture in this patient was identical to that described above. The response was not obtained with physiologic doses of pyridoxine, but did appear when the patient received massive doses of the order of 200 mg a day. Subsequently, a number of such cases have been reported. In almost all of these, the response is not obtained until very high doses of pyridoxine are given. Even in these circumstances, response may only be partial. The high requirement for pyridoxine suggests that this is not a deficiency state, but rather that the excess vitamin is in some way able to overcome a partial block in the biosynthetic pathway for heme. The lack of a history of poor dietary intake of pyridoxine and the absence of the neurologic complications usually seen in dietary deficiency of the vitamin provide further evidence against a true deficiency state.

Of interest in relation to the role of pyridoxine deficiency are the reported studies of tryptophane metabolism. Pyridoxine is necessary in several steps of the tryptophane metabolic pathway. In deficiency states or in the course of treatment with tuberculostatic drugs, increased amounts of intermediate products of this metabolism can be detected in the urine. This is most evident if the individual is given a tryptophane load. The cases of idiopathic pyridoxine responsive anemia represent a mixed group when studied from this point of view. Some do show abnormal tryptophane metabolism. On the other hand, many do not. When the abnormality is present, it is usually corrected by pyridoxine therapy.[23-25]

Within the group of idiopathic refractory sideroblastic anemias reported in the literature are a significant number in whom the terminal phase of the disease has been one of an acute blastic leukemia.[2, 3] Dameshek considers all cases of refractory sideroblastic anemia to be more or less a chronic form of diGuglielmo's disease or erythroleukemia.[26, 27] He considers that the extreme erythroid hyperplasia of bone marrow, the morphologic abnormalities of the marrow erythroid precursors and the very poor delivery of red cells to the periphery by this hyperplastic marrow indicate a neoplastic transformation within the erythroid series. It has been noted that in some cases of sideroblastic anemias PAS positive material is found in the nucleated red cells in the bone marrow. This abnormality of staining also is found in classical cases of diGuglielmo's disease.[18] However, clinically the course of the majority of these patients is much slower than in that seen in the classic erythroleukemia as described by diGuglielmo. In his description of his syndrome, one of the striking features was the very high number of nucleated red cells seen in the peripheral blood. While occasional late nucleated red cells may be seen in the peripheral blood in sideroblastic anemias, they are far fewer than are seen in the acute form of the disease he described.

Another consideration in the relationship between these anemias and neoplastic blood dyscrasias is the possible relationship between sideroblastic anemia and monocytic leukemia. Rather striking monocytosis has been reported in several cases, at least in the terminal stages of this disease.[16] The author has observed three cases of typical refractory sideroblastic anemia in which monocytosis was a persistent finding in the peripheral blood throughout the course of the disease.[17] In the early stages, these monocytes were seen primarily in the peripheral blood in large numbers. Here they appeared as mature monocytes, but with mildly atypical morphologic characteristics. Subsequently, two of the cases have shown infiltration of the bone marrow with monocytic forms similar to those seen in the peripheral blood. It cannot be stated yet whether these represent true monocytic leukemia or whether the monocytosis represents a physiologic reaction associated with this form of anemia.

The remainder of the cases, at this stage of our knowledge, must be termed idiopathic. As a corollary, most are also refractory to known forms of therapy. These patients may carry on for fairly long periods of time with relatively stable moderate anemia. Some of them, on the other hand, may be totally unable to maintain a circulating red cell mass adequate to sustain life and will require blood transfusions.

Treatment

The importance of careful study of these patients before treatment and diligent evaluation of the results of therapy has already been mentioned. In the clinical evaluation of the patient, consideration of lead poisoning is essential since complete correction of the anemia can be obtained by the use of chelating agents to eliminate the overload of lead. At the present time, calcium disodium versenate would appear to be the agent of choice. This is given intravenously over a period of several days, and the course may have to be repeated. In cases associated with antituberculous therapy, administration of pyridoxine and/or a change to other antituberculous drugs is the preferred treatment (Table 3).

TABLE 3

Acquired Sideroblastic Anemia—Therapy

Clinical Situation	*Treatment*
1. All cases	*No* iron
2. Lead poisoning	Calcium Disodium Versenate
If megaloblastic	
3. Pyridoxine—dietary deficiency	Pyridoxine
4. Antituberculous drug therapy	Pyridoxine Withdraw the offending drug
5. Idiopathic	Pyridoxine Vitamin C
If megaloblastic	Folic Acid, Liver Extract, Vitamin B_{12}
6. Refractory	Transfusions

In other types of sideroblastic anemia, sequential therapy with properly chosen agents should be given. The process in these patients is generally a chronic one and requires long term maintenance therapy with those agents which show capability of improving the hematologic status. Iron therapy is contraindicated. These patients are already iron loaded. Further therapy with iron can only complicate the situation. This is particularly true in the group which requires recurrent transfusion, as the administration of iron will accelerate the development of toxic iron overload and hemachromatosis.[28]

In certain of the cases, megaloblastic or, at least, megaloblastoid changes will be seen in the bone marrow. In some of these cases, a response of the anemia or, at least, a reversion of the bone marrow to a more normoblastic form of proliferation may follow the administration of folic acid.[1] More rarely, a response may be obtained from Vitamin B_{12} therapy. From the literature, it is not clear whether these cases actually represent individuals who have been on a diet low in folic acid or whether these represent cases of extreme marrow hyperactivity producing a relative folic acid deficiency, such as may be seen in association with chronic hemolytic states[20] or under certain circumstances in severe infections.[29] Certain others in the group with megaloblastic bone marrow occasionally have been reported to respond to crude liver extract, even though no response has been obtained with Vitamin B_{12} or folic acid therapy.[1] The active principle in this liver extract has not been identified. Therefore, those patients with a megaloblastic bone marrow first should be given a therapeutic trial of Vitamin B_{12}. The patient should be observed for at least a two week period for reticulocytosis and rise in the circulating hemoglobin. In addition, a Schilling test should be done to prove adequate absorption of the vitamin. If there is no response to Vitamin B_{12}, a therapeutic trial with folic acid should be given. Again, the patient should be observed for at least two weeks for reticulocytosis and a rise in hemoglobin. If response to either of these agents occurs, administration should be continued until maximum levels of circulating hemoglobin are obtained. In the true sideroblastic anemias, the levels attained will generally continue to be subnormal. In this case, a trial of pyridoxine therapy should be instituted. During this period, it may be well to continue folic acid if a prior response to this agent has been obtained. If there is no response to any of the previous agents, a course of liver extract should be given. Finally, a trial of Vitamin C should be given.[30] After all these measures, a group of cases will remain which have proven totally refractory to treatment. In this group, consideration may be given to administration of corticosteroids or androgenic hormones, such as testosterone. However, these agents have generally not proved to be of benefit.

In those cases which prove totally refractory to therapy, the final consideration is the use of blood transfusions. These should be withheld, if possible, even though the patient maintains some mild degree of chronic anemia. As stated earlier, these patients generally have somewhat increased total body iron at the time of diagnosis, and transfusion therapy will only increase the body burden of iron. Frequent transfusion will produce transfusional hemosiderosis and possibly hemochromatosis.

Biochemical Mechanisms

In general, the sideroblastic anemias can be considered as disorders of heme synthesis in the developing erythocytes. The biochemical reactions in this synthetic pathway, as we now know them, are outlined in Fig. 2. Granick and Levere have recently published a very complete review of our present knowledge of this pathway.[31]

Several different biochemical approaches have been used to study the abnormalities of porphyrin metabolism in these anemias. In some cases, excessive urinary excretion of intermediate producers gives evidence of blocks at some stage of the synthetic chain. In lead poisoning, there is excessive excretion of both delta-amino-levulinic acid (ΔALA) and coproporphyrin.[32] In several cases of pyridoxine responsive anemia, an increased excretion of coproporphyrin has been reported, but this is not a consistent finding.[24]

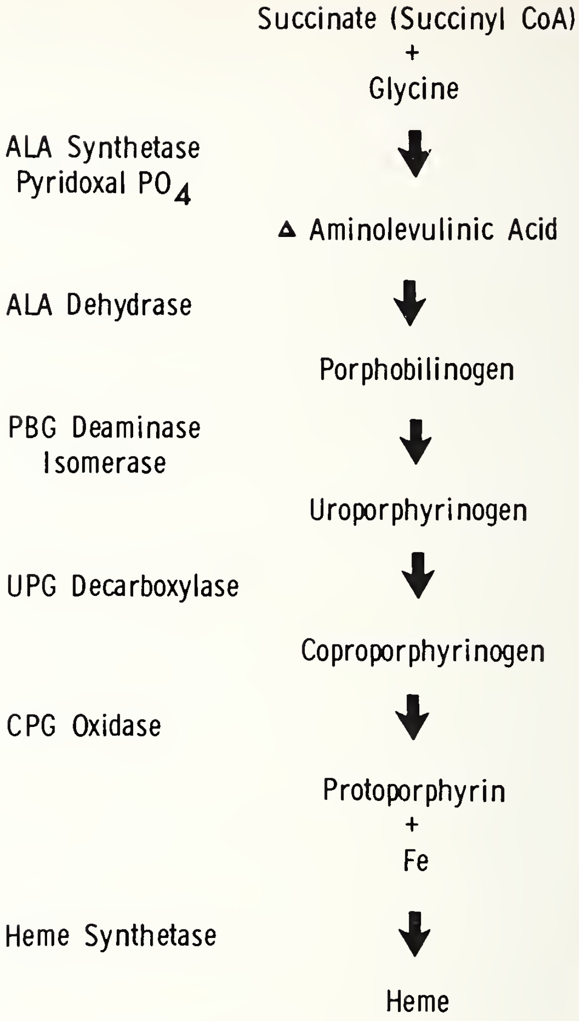

Fig. 2 Pathway of heme synthesis.

Measurement of the levels of free protoporphyrin in erythrocytes has been carried out in a number of pateints. In lead poisoning, the level is usually increased.[32] In pyridoxine responsive anemias, the levels have usually been low.[25] In refractory sideroblastic anemias, increased levels of red cell coproporphyrin almost invariably are found, but protoporphyrin usually is not increased.[4, 33]

Other investigators have studied the heme synthetic pathways *in vitro*.[3, 33, 34] These investigations have shown more specifically which stage or stages of synthesis are involved in the various forms of sideroblastic anemia.[6, 32] Lead poisoning interferes with several steps of the synthesis. In particular, it affects the conversion of the ΔALA to porphobilinogen and, probably, the incorporation of iron into protoporphyrin are affected. There also may be some interference with the intermediate steps and with the initial reaction leading to the formation of ΔALA.

In those cases responsive to pyridoxine, the major abnormality probably lies in the formation of ΔALA. However, the exact mechanism by which this synthetic step is altered is still unknown. Pyridoxal phosphate acts as a coenzyme for the ΔALA synthetase. Since very large amounts of pyridoxine are required, it would seem that some alteration in the enzyme or block to the reaction is present which can only be overcome by providing an excess of the coenzyme.

Several investigators have studied the heme synthetic pathways in cases of refractory sideroblastic anemias. No consistent abnormality has been found.[3, 4, 33, 34] Many of the cases show alterations in ΔALA synthesis, but defects at other points in the pathway also are seen. In some cases, multiple steps may be involved. Thus, in one case which was treated with pyridoxine without obtaining a hematologic response, Lee et al found evidence of two blocks in the synthetic pathway.[35] With no pyridoxine therapy, the free erythrocyte protoporphyrin (FEP) was low. When the patient was given Vitamin B_6, the FEP rose to very high values. They interpreted these findings as indicating defects in the synthesis of ΔALA and in the synthesis of heme from protoporphyrin and iron. The first of these could be overcome by supplemental pyridoxine, but not the second. The second was masked in the absence of pyridoxine therapy by the block at the earlier stage of synthesis, but became evident when this block was removed. Heilmeyer and his co-workers also have found evidence of blocks in the same steps in acquired refractory sideroblastic anemia.[33]

It has been suggested that excessive iron may of itself be toxic to heme synthesis.[7] Whether or not this plays a role in some cases is unknown. In one case observed by the authors and in several reported in the literature, iron apparently is not the cause of the problem.[17, 36] In these patients, removal of excess iron by phlebotomy did not alter the anemia. On the other hand, Verloop and Rademaker reported improvement in the hemoglobin level following vigorous phlebotomy in a patient who had previously shown improvement from pyridoxine therapy.[37]

Thus, from a biochemical as well as a clinical standpoint, this group of anemias apparently can be caused by a variety of mechanisms. The clinical pictures which they present are similar because the different biochemical mechanisms lead to a single final manifestation. This is the inability of the erythroid precursors to utilize the iron which is present for the synthesis of heme. As a result, there is accumulation of iron in the cells, and a red cell deficient in hemoglobin is produced.

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Intrarenal Vascular Occlusion: Report of a Case With Anatomic Localization by Isotopic Studies

Case Report

THIS SINGLE CASE REPORT of intrarenal vascular dissection is warranted for it enables the authors to present an unusual complication of anticoagulant therapy. More important, it records several isotopic findings that helped diagnose and pinpoint the condition, as well as the area of occlusion.

CASE REPORT

A 50-year-old male accountant was hospitalized with an acute transmural inferior myocardial infarction from November 16, 1964, to December 12, 1964. Initially the patient was treated with heparin and, later on, with warfarin sodium, which was continued on an outpatient basis following an uneventful recovery. Prothrombin time determinations (quick one stage) using Simplastin were performed at the office laboratory at biweekly intervals. With an average daily dose of 6¼ mg of warfarin sodium, the patient's prothrombin time ranged from 21 to 18½ seconds or 22 to 33% activity, with a control time of 13 seconds. The patient returned to full activity as an accountant. He experienced no angina pectoris. His blood pressure readings ranged from 120/80 to 130/80 mm of mercury.

On April 18, 1965, one day preceding a scheduled prothrombin time check, the patient suddenly noted that his urine was grossly bloody. There was no pain. He immediately was advised to take phytonadione 10 mg orally and, one hour later, received 50 mg of phytonadione intravenously. Several hours later, the urine appeared to be grossly of normal color. A prothrombin time determination the following day was 16.5 seconds or 56% activity with a control of 13 seconds. Warfarin sodium was reinstituted with a daily dose of 6¼ mg.

Four days later, on April 23, 1965, after feeling quite well and having no macroscopic hematuria, the patient developed severe colicky left flank pain and was hospitalized on the same date. On admission, his temperature was 99.6°, his pulse was 104 and regular and his blood pressure was 176/90. Aside from the left flank tenderness, the remainder of the physical examination was within normal limits. The admission urinalysis showed a pH of 6; specific gravity, 1.022; albumin, 3+; sugar, negative. The centrifuged sediment showed 4 to 6 rbc, 0-2 wbc, an occasional hyaline and granular cast per high power field. Hemoglobin was 15.3 grams, white blood count was 17,300 with 84% neutrophiles. Blood sugar was 90 mg/100 ml; BUN was 19 mg/100 ml; creatinine 1.25 mg/100 ml; uric acid 5.1 mg/100 ml; calcium, 9.9 mg/100 ml; phosphorus, 3.2 mg/100 ml. VDRL was nonreactive.

The patient ran a daily fever of up to 100° F. Subsequent blood pressure determinations were 164/110, 150/90, 154/90, 126/94, 130/90 and 140/90. On April 24, an intravenous pyelogram was done. The renal shadows appeared normal in size and outline. There was good excretion of the dye on the right side. No dye was observed on the left side throughout a protracted time interval (Fig. 1).

On April 27, cystoscopic examination with retrograde pyelograms was done. The bladder was nor-

A case report of intrarenal vascular occlusion which represents an important clinical problem that is increasing in incidence. The authors' studies helped to localize the vascular occlusion and are of value in the defined triad. Doctor Wolf is Clinical Associate Professor of Medicine, Doctor Spurny is Instructor in Medicine and Doctor Lambie is Instructor in Radiology at Kansas University School of Medicine. Doctor Rubin is Associate Clinical Professor of Radiology at Kansas University School of Medicine and Clinical Professor at the University of Missouri School of Medicine. All are from Menorah Medical Center in Kansas City.

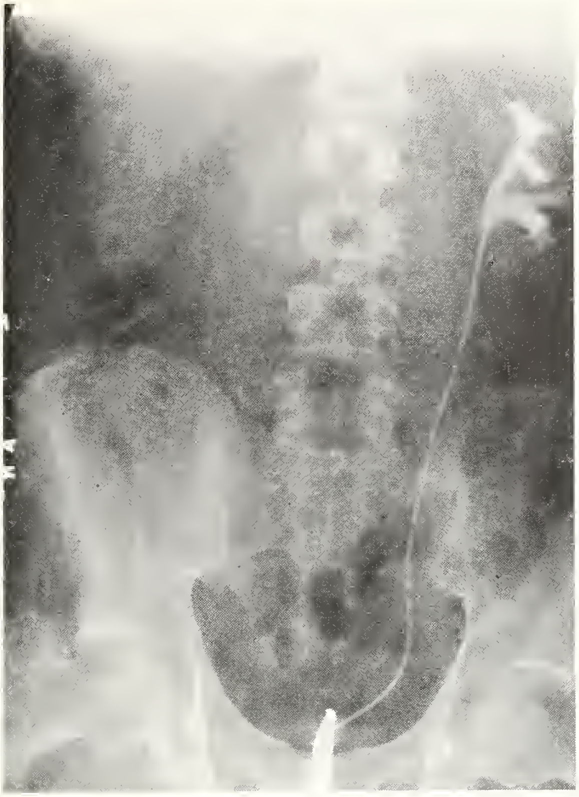

Fig. 1 No dye excretion on the left side.

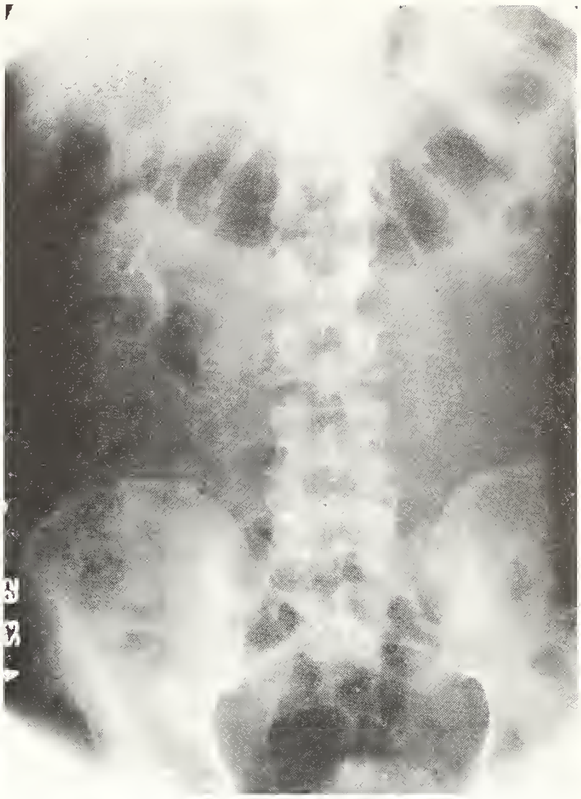

Fig. 2 Retrograde pyelogram reveals normal kidney collecting system.

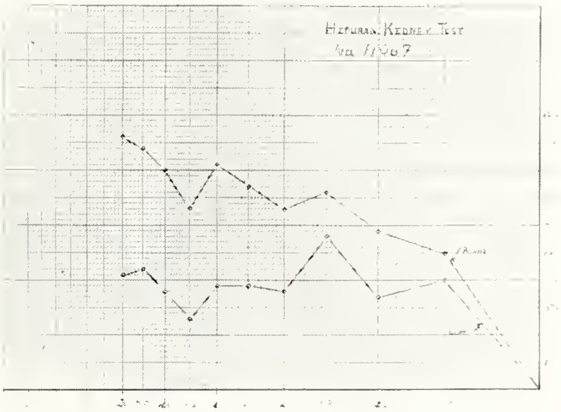

Fig. 3 Hippuran study: Initial slope of left renal area approximates pattern of uninvolved kidney.

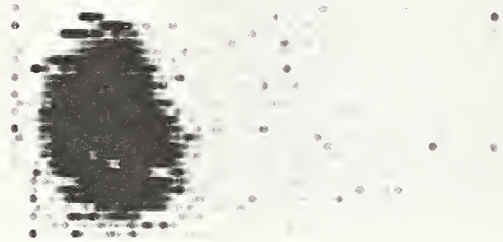

Fig. 4 Chlormerodrin (Hg-203) radioactive renal scan demonstrates normal deposition on the right. No activity observed on the left side.

mal. The retrograde pyelograms were normal. However, there was no excretion of urine from the left kidney (Fig. 2).

On April 29, an I-131 Hippuran test was performed (Fig. 3). At one minute, there was a difference in uptake with the left side being less than that of the right. The incline of the curve, as represented on a logarithmic graph, demonstrated a similar flow pattern but was slightly diminished in degree on the left side.

A radioactive kidney scan was also done on April 29, 1965. This (Fig. 4) demonstrated a normal renal scan on the right with no radioactivity recorded on the left.

As a result of these studies and the patient's clinical picture, the diagnosis of left renal artery occlusion was made and the intrahilar portion of the artery was suggested as the site of occlusion. On May 3, 1965, surgery was performed. The urologist,

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Meigs's Syndrome and Pregnancy

Case Reports

THE DISCOVERY OF PLEURAL EFFUSION during pregnancy is an unusual occurrence and may present a perplexing diagnostic and therapeutic problem. The coexistence of pregnancy, pleural effusion, ascites and a solid adnexal mass is even less frequently encountered.

Meigs's syndrome of ovarian fibroma, ascites and hydrothorax is a clinical phenomenon which has been described intermittently in the literature since 1879.

Because the presenting clinical phenomena associated with this entity may be extremely similar to those commonly found in instances of pelvic malignancy, comprehensive differentiation between the two conditions is important. The difference in therapeutic approach and prognosis between Meigs's syndrome and pelvic malignancy is obvious, considering the proven benignity of the former.

The documented incidence of ovarian tumors coexisting with pregnancy has been reported to vary from 1:273[1] to 1:2489.[2] Approximately 5% of these ovarian tumors may be malignant. The incidence of solid ovarian tumors coexisting with pregnancy has been reported to be approximately 1:10,000.[3] Two to 10% of the solid ovarian tumors will be fibromas.[3-6] Of these, 20 to 40% will have associated abdominal ascites.

Problems which might be anticipated in the management of Meigs's syndrome during pregnancy are illustrated by the following three case reports. Two were available from the world literature and the author adds the third.

CASE REPORTS

Case # 1.[8] A 29-year-old Paraguayan, Gravida 6, Para 5, three months pregnant by date presented with complaints of increased abdominal size, cough and difficulty in breathing. She had noticed a lower abdominal mass for four months with marked increase in size during the two months prior to admission. Examination revealed a distended abdomen with demonstrable intraperitoneal fluid and a movable hard mass extending from the pelvis to the umbilicus. There was clinical evidence of fluid in the right hemithorax. Bimanual pelvic examination revealed a hard, movable tumor with the uterus not definitely outlined.

A thoracentesis and a paracentesis were performed and the fluid studied for tuberculosis, bacteria and cytologic characteristics, all of which were normal. There was subsequent rapid accumulation of fluid in the right chest and the patient continued to do poorly. An exploratory laparotomy was performed under local anesthesia and a right oöphorectomy was performed for a solid right ovarian tumor. A hysterotomy also was performed in this instance. The ovarian tumor weighed 1,150 grams and was histologically a fibroma.

Postoperatively, the chest was clear by radiographic studies on the tenth postoperative day and the patient has remained well since that time.

Case # 2.[7] A 37-year-old female, Gravida 10, Para 7, Aborta 2, was approximately three months pregnant. She was admitted to the Northwestern University Hospital complaining of pain in the right upper abdominal quadrant of three weeks' duration.

The patient was being followed in an antepartum clinic when she developed abdominal pain which radiated to both sides of the back and which had been increasing in severity for 24 hours prior to admission. She also had developed some lower abdominal cramp-like discomfort resembling labor pains. The patient had been aware of a palpable mass in the abdomen for at least four months.

On examination, the patient was poorly nourished and appeared to be in severe pain. She was afebrile, with both tachycardia and tachypnea. Her blood pressure was 154/120. There was nodular enlargement of the thyroid gland. The abdomen was distended and symmetrically enlarged. There was a bulging mass in both the right lower and upper quadrants. A smaller mass was felt in the left lower abdominal quadrant. The two masses together extended nearly to the xyphoid. Fetal heart tones were not audible. Pelvic examination revealed the cervix to be soft and closed. Aside from pitting edema of both lower extremities, the remainder of the physical examination and laboratory findings were within normal limits.

The patient was admitted to the hospital with diagnoses of pregnancy, fibroids and toxemia. The possibility of an ovarian malignancy was considered. Three days after admission, the patient spontaneously expelled a stillborn infant.

Postpartum examination immediately following delivery revealed a large, hard, rounded mass in the abdomen, separate from the uterus. The patient's condition deteriorated and an exploratory laparotomy was performed under local anesthesia three days after delivery. A large solid tumor of the left ovary and an unrecorded amount of free fluid were found. The patient's condition was so poor that physicians elected not to remove the mass. Her condition continued to deteriorate and she expired two days later.

A postmortem examination revealed that a huge fibroma of the left ovary had undergone torsion with subsequent infarction. The fibroma weighed 7,150 grams. The left pleural cavity contained 700 ccs of brownish fluid and the right pleural cavity about 50 ccs.

Case # 3. A 33-year-old female, Gravida 4, Para 3, Aborta 1, was admitted to the University of Missouri Medical Center on March 18, 1962, complaining of abdominal pain, nausea, shortness of breath and weight loss. Her menstrual history revealed an LMP occurring approximately 2½ months prior to admission. The present illness was of four weeks' duration and was characterized by dyspnea, weight loss of 15 lbs and chest pain.

Four hours prior to admission, she developed acute right lower quadrant pain for which she was given morphine and Thorazine by her family physician. On physical examination, the blood pressure was 110/80, pulse 80, respirations 28 per minute. She appeared to be in moderate distress. Auscultation of the chest revealed bilateral expansion, some increase in the mid-expiratory phase and coarse ronchi, particularly on the right. Examination of the breasts revealed a 4 × 5 cm nodule with skin fixation on the right. Abdominal examination was negative.

Pelvic examination revealed the uterus to be enlarged to the size of a ten weeks' pregnancy. A hard mass was lying free and movable in the cul-de-sac, which was approximately 8 cm in diameter.

A chest X-ray revealed fluid in the lesser fissure on the right; mammograms revealed a partially calcified mass in the right breast; and sputum culture revealed normal flora without acidfast organisms. LE preps were negative. WBC was 14,000 with a normal differential; hemoglobin was 12.6 grams and hematocrit was 37%. Urinalysis was normal. A tuberculin skin test was negative.

Twenty-four hours after admission, the patient suddenly developed excruciating right lower quadrant abdominal pain. Examination revealed the 8 cm mass to be exquisitely tender, and it was believed to be undergoing torsion. Exploratory laparotomy revealed 300 ccs of clear, yellow peritoneal fluid. A solid ovarian tumor on the right, measuring 6 × 6 × 5 cms, obviously twisted on its pedicle. The tumor mass was excised completely and the gravid uterus left intact. A biopsy of the patient's breast mass proved it to be a fibroadenoma.

The postoperative course was benign. A chest film, taken at six days, revealed complete disappearance of fluid in the right pleural cavity. The pregnancy progressed normally to 40 weeks and terminated in the spontaneous vaginal delivery of a viable 2,780 gram male infant.

Periodic re-evaluation of the patient over a three-year period has revealed no evidence of recurrence of pleural effusion or ascites.

Three case reports of Meigs's syndrome complicating pregnancy, one of which was encountered recently at the University of Missouri Medical Center. The author discusses the diagnosis, treatment and prognosis of this condition in the pregnant and non-pregnant female. Doctor Griffin is Associate Professor of Obstetrics and Gynecology at the University of Missouri School of Medicine.

Discussion

After the report by Meigs[8] of seven patients with ovarian fibromas, ascites and hydrothorax cured by removal of the fibroma in 1937, this syndrome has become well documented.

Precise criteria exist for establishing the diagnosis of Meigs's syndrome. The ovarian tumor must be solid, benign and with characteristics of a fibroma. Thecomas and solid granulosa cell tumors may be included if proven to be benign. The tumor must be accompanied by ascites, but this need not be evident preoperatively. There must be fluid in the chest. Resection of the tumor should effect resolution of the ascites and hydrothorax without evidence of recurrence.

It has been observed that tumor size has no relationship to the amount of ascites or pleural fluid, nor does the amount of ascitic fluid relate to the quantity of pleural fluid. Both ascitic and pleural fluids may be occasionally blood tinged.[9] The symptoms are quite constant and include abdominal pain and swelling, loss of weight, chest pain and dyspnea. Hemoptysis has not been reported as a feature of this syndrome. X-ray examination will reveal fluid in one or both hemithoraces. Classically, however, the right hemithorax will be most frequently involved.

Clinical laboratory studies are helpful largely in a negative manner. The specific gravity of ascitic and pleural fluids will be less than 1.018, cultures will be sterile and cell blocks nonmalignant. Protein electrophoretic characteristics of the abdominal and pleural fluids are similar.

Many explanations as to the etiology of the pleural fluid have been suggested. Among these have been hypoprotenemia, alarm reaction, active secretion by the pleura, vena caval pressure and congenital pleuroperitoneal tubes. The best-accepted theory postulates edema formation by the ovarian tumor, ascites and subsequent fluid transport via the subdiaphragmatic lymphatics to the supradiaphragmatic lymphatics and pleural cavities. That the flow is definitely in this direction has been demonstrated by carbon transport studies.[10]

In reviewing the cases presented in this communication, it would appear that Meigs's syndrome may, indeed, occur coincidentally with normal pregnancy. Although the changes normally associated with gestation may delay the demonstration of ovarian fibromata, ascites and hydrothorax, the diagnosis and treatment of Meigs's syndrome are the same for both the pregnant and non-pregnant patient.

Although delayed recognition may be associated with elevated early patient morbidity secondary to dyspnea and adnexal torsion, proper surgical therapy should produce excellent long range prognosis for both mother and infant.

Summary

1) Three instances of Meigs's syndrome complicating pregnancy have been described, two from previous reports and one new case recently encountered at the University of Missouri Medical Center.

2) The diagnosis, treatment and prognosis of this condition in the non-pregnant and pregnant female are considered.

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Intrarenal Vascular Occlusion (Cont'd)

apprised of the findings and the proposed site of occlusion, was not surprised to find the left renal artery pulsated to the hilum of the kidney. He, therefore, proceeded with the nephrectomy.

The final pathologic diagnosis was dissection of the left renal artery with focal infarcts of the left renal parenchyma. The renal artery was completely obstructed at the hilum, not by thrombosis, but by pressure from the expanding hematoma from the dissection. The patient made an uncomplicated recovery from the surgery.

Summary

1. A case of renal ischemia is presented in which the underlying pathology was that of dissection of the intrarenal vessels due to hemorrhage, a complication of anticoagulant therapy.

2. The intrarenal location of the vascular block was suggested by evaluating the information obtained from an intravenous pyelogram, an isotopic Hippuran tracer study and mercurial scans.

3. The triad of a nonfunctioning kidney, a cold renal scan and a vascular component of Hippuran tracer approaching the normal contralateral side suggests an intrarenal or distal renal arterial block.

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A New Interdisciplinary Concept in Teaching Health Services Management

THERE IS A TREMENDOUS SHORTAGE of well-trained health and medical care administrators throughout the nation. Although there are approximately 425 students graduating from master's degree programs in hospital administration each year, the average candidate has four to five employment offers in institutional management or related activities. The need for well-educated and experienced administrators and managers will increase with the greater advancement of the medical sciences, the expansion of health and hospital facilities and the impact of various governmental programs in the provision of medical services. The average graduate program now accepting for admission less than 20 students a year would need to double or triple its present class size to meet the demand for health services management personnel.[1]

The increasing complexity of the external relationships and the internal management of the hospital and the necessity for even closer integration of its activities with voluntary and governmental groups and agencies require the director of a health care institution to be more knowledgeable, to have greater insight and to possess more administrative skill. The role of the hospital administrator should be much broader than a combination officer manager, purchasing agent, personnel officer and innkeeper. When decision making for a hospital is left to the uninformed, untrained and inexperienced individual, it usually results, in the long run, in a great loss to the community, the governing board, the medical staff and the patients.

EARLY HISTORY

Health services management is a young and emerging field of endeavor. The need for well trained administrators was evident to the leaders in the field more than 50 years ago. The first paper on the subject was published by Drs. Washburn and Howland in 1910 in the *International Hospital Record*.[2] For more than ten years, the American Hospital Association had a committee on "The Training of Hospital Executives," under the chairmanship of Dr. Malcolm T. MacEachern.[3] The Rockefeller Foundation on two occasions supported comprehensive studies of the need for trained hospital managers.[3] Prior to World War II, there was little demand on the part of governing boards for trained and experienced executives.

Most hospital administrators prior to 1947 received their training as an "apprentice" to an older, well-established director. Apprenticeships for physicians and non-physicians were offered through appointments as assistants. This method of education produced some of the most prominent executives of our times. Those entering the field were brought into constant and close contact with the many problems of administration. The cost of the training was negligible since, in most cases, the apprentice was compensated for his services. Bachmeyer[2] describes the disadvantages of this training as, "that the student is not regarded as such and is so encumbered with duties that there is no time for study; that he gains knowledge of but one institution and not infrequently his experience is limited to only certain restricted phases of the organization's activities and that he does not obtain a perspective of the entire hospital field."

The apprenticeship method of training was used by all the professions until such time as organized courses of study were established. Between the First and Second World Wars, there were a number of attempts to formalize the training of hospital administrators. In 1919, the University of Cincinnati offered a one-year course in hospital administration and, in 1922, Yale University included in its catalogue a series of four postgraduate courses in its School of Medicine on dispensary practice and hospital administration.[4] Marquette's College of Hospital Administration was established in 1924 and then disbanded in 1928. A few other sporadic short courses were announced, but, for lack of demand, none of these educational attempts had long-term significance in the field.

In 1934, with the financial support of the

Rosenwald Fund, a graduate course in hospital administration was established in the School of Business Administration at the University of Chicago.[5] The program consisted of nine months of academic work on campus, at least one year of administrative internship and a project report indicating intensive research. The period of study at the University provided an opportunity for full-time pursuit of the various aspects of hospital organization and management and for obtaining a comprehensive perspective of the role of the institution in society. The subsequent period of internship (later ealled administrative residency) enables the student to observe the application of the principles learned in the academic portion of the program. After completing this 21-month program, the student received the Master of Business Administration degree.

With the establishment of the Chicago program, more practitioners argued that the apprenticeship type of training was outmoded and that other professions demand the acquisition of at least a master's degree for qualification for a profession. Rev. Schwitalla stated that in "trying to formulate general requirements for hospital administration, we commit ourselves to the program that hospital administration requires at least the basic preparation which is ordinarily implied in the master's degree."[6]

Post World War II Developments

It was during and after World War II that the graduate programs in hospital administration expanded. Northwestern opened in 1943, Columbia in 1945, Minnesota and Washington University in 1946 and the University of Toronto, Johns Hopkins, University of California, Berkeley and Yale in 1947. Even these new programs were not sufficient to meet the demand for training hospital administrators.

With a grant from the W. K. Kellogg Foundation, a Joint Commission on Education was established in 1945 with Dr. Charles E. Prall as study director. The Commission studied intensively the curriculum plan for hospital administration, visited many universities to arouse interest in such training and conducted numerous workshops during the three-year period. The final report published in 1948[7] tended to favor schools of public health rather than schools of business administration as the proper milieu for hospital administration training and proved to be a great stimulus for more coordinated planning and additional new programs.

The proceedings of the Prall Commission brought the course directors together on frequent occasions and instilled in them a desire to meet on a continuous basis. The Association of University Programs in Hospital Administration was founded late in 1948 and has met each year to discuss student selection, curriculum and the residency program and other topics pertinent to these graduate courses. It was also during this period that programs were established at the St. Louis University (1948), University of Pittsburgh (1948), State University of Iowa (1950), Baylor University-Army (1950) and the Medical College of Virginia (1950). There are now 19 member programs in the United States, Canada and Mexico. Two of the programs are located in schools of medicine, nine in schools of public health, five in graduate schools, three in business schools or combined schools of business and public administration.[8]

The Olsen Report

The Association of University Programs in Hospital Administration in 1952 appointed a Commission on University Education in Hospital Administration to study education for administration in hospitals as envisioned for the future, to survey existing university programs in the field and to make recommendations for the improvement of present programs as a group. The study, conducted by Dean Herluf V. Olsen of the Amos Tuck School of Business Administration at Dartmouth College, both challenged and frustrated many of the program faculties.[9]

The major point of disagreement was with such statements as, "The establishment of graduate programs in hospital administration may be said to mark the coming of age of an industry." Those having strong medical, public health and management backgrounds, such as Drs. E. Dwight Barnett, Malcolm T. MacEachern and Albert W. Snoke, objected to the tenor of the report so strongly emphasizing the business aspects of hospital administration. The recommendation that "the program be located in the school of business administration" provoked considerable dissent and a six to seven vote rejected this suggestion.

University of Missouri Program

When the Graduate Studies in Health Services Management was established at the University of Missouri in May, 1966, it was planned as an interdisciplinary and joint course between the School of Medicine, the School of Business and Public Administration, the Graduate School and the University Medical Center. This program was founded in recognition of the highly complex organization of health services, its increasing importance to the community, its needs for leadership and the lack of truly interdisciplinary and flexible health services management courses. The University of Missouri program is the only course in the country that actually coordinates the earlier Prall and Olsen reports.

The aims of the program are to provide graduate education for those interested in preparing for a leadership and an administrative career in hospitals and allied institutions and agencies, to conduct research fundamental to all medical care organizations, to render service through the medium of extension education and to cooperate in joint endeavors with voluntary and governmental health groups and associations. The educational objective of this interdisciplinary program is to give students an opportunity to acquire the background, the knowledge, the attitudes and the skills in both the health and management fields that are essential for positions of leadership in hospitals and other health care facilities and services.

A fundamental premise of the University of Missouri program is that the management of all health services is, in most essential aspects, similar to the management of all other types of human organizations. There are, however, certain vital phases of the health field which pose policy, procedural, technical and community differences that are not usually confronted in a private business enterprise. There is, therefore, a need for the program in health services management to be interdisciplinary with an opportunity for each student to obtain the proper balance between the public health-hospital and medical care organization and the business and public administration areas of study.

CURRICULUM AND DEGREES

The University of Missouri Graduate Studies in Health Services Management offers three graduate degrees: Master of Business Administration (M.B.A.), Master of Science in Public Administration (M.S.P.A.) and Master of Science in Public Health (M.S.P.H.). Irrespective of the degree, the specialized training in health services management is quite similar in its course content.

It is recommended, but not required, that those with strong backgrounds in medicine, public health and the basic sciences enter the program leading to the M.B.A. or M.S.P.A. degree, while those with bachelor's degrees in business administration or equivalent should enroll in the M.S.P.H. curriculum. This approach allows the student to supplement, rather than to duplicate, his previous training and experience.

The increasing complexity of the external relationship and the internal management of the hospital, plus the necessity for even closer integration of hospital activities with voluntary and governmental groups and agencies, today requires the director of a health care institution to be more knowledgeable, to have greater insight and to possess more administrative skill. The authors explain the new University of Missouri Graduate Studies in Health Services Management, designed to train and to instill new ideas and concepts in the training of hospital and health leaders of the future. The authors are from the Department of Community Health and Medical Practice at the University School of Medicine. Doctor Parrish is Professor and Chairman of the Department. Doctor Weil is Associate Professor and Director of the Graduate Program. Mr. Boyle is Assistant Professor and Associate Director of the University of Missouri Medical Center.

The M.B.A. program encourages a broad perspective of the business world and an awareness of the economic, social and political problems related to the operation of private enterprise. It provides a strong educational background for persons who have previously been trained in basic or para-medical science areas and are interested in voluntary, non-profit or proprietary health and hospital services and facilities.

The M.S.P.A. degree program is intended for students interested in city, county, state and federal governmental health services administration. The emphasis is on broad problems confronting administrators of public agencies, facilities and services. It develops the tools of analysis and judgment for governmental services.

The objective of the M.S.P.H. program is to prepare the individual without a previous health-hospital-basic science background to assume an administrative and leadership role in health services management. This degree is primarily for individuals whose previous training and experience has been in business administration and the social sciences.

The suggested curriculum for the three degree programs is shown in Table 1. The purpose of offering these three flexible programs is to provide supplementation, rather than duplication, of previous training and experience. Those familiar with the basic sciences and the health field generally need additional training in business or public administration; those with business and social science backgrounds need more emphasis in the public health field. In all cases, the approach is to tailor the program to meet the needs of the individual student.

Admission, Degree Requirements

In order to qualify for admission, an applicant must have earned a baccalaureate, master or doctoral degree and must have maintained an overall grade average of at least 2.5 (A = 4.0). In the selection process, more emphasis is placed on sound scholarship and the promise of development for the field than on the precise content of the program which the prospective student has followed before applying to the graduate program. Work experience in hospitals or other medical facilities before admission is desirable, but not required.

The master's program consists of four semesters (Table 1) on campus and a three-month summer externship in a hospital or other health facility between the first and second year of the program. The various course requirements are designed to cover four semesters, with a new class admitted each September. The non-credit, summer externship must be taken with a preceptor approved by the faculty of the graduate program, although this requirement will be waived for those having three or more years of management experience in a hospital or an allied field.

Summer Externship

The purpose of the summer externship is for the student to become more familiar with the field, to become more cognizant of some of the issues and problems in the day to day operation of a health facility and to develop through practice some of the skills obtained during the first nine months of the program. The content of the externship program will be carefully planned by the faculty, the preceptor and the student, but, in general, some measure of observation, departmental or area rotation, project assignments and administrative responsibilities will be included with the emphasis on each varying with the student's background and aptitude. The extern will be visited by a faculty member at least once during the summer and reports will be requested from the preceptor and the student.

An attempt is made to place the student in an externship near his permanent residence or his desired location. There are approved externships in almost every urban area of the United States.

Research

One of the major purposes of the graduate program in health services management is to conduct research in such areas as hospital administration, medical care organization, health insurance coverage, long-range health and hospital planning and financing various aspects of the medical care system. The research program is intended to be broad in scope and is focused to answer questions being urgently asked by all levels and types of health, medical and hospital planners and practitioners.

Continuing Education, Community Service

The faculty of the Graduate Studies in Health Services Management has the responsibility of providing continuing education services for those who have entered the fields of hospital and medical care administration. Short courses and continuing education programs are being planned for top executives, middle managers (department head level) and other medical and allied health personnel.

In keeping with the University's role and tradition, the faculty will undertake a few community studies in the area of long-range master planning for health and hospital services, of assisting with the design of new or renovating old facilities and of comprehensive internal management studies. This is only one phase of the program's community orientation of faculty working closely with governing boards, medical staffs and administrators.

Discussion

The University of Missouri Graduate Studies in Health Services Management is unique among the presently existing master's programs in hospital administration in the respect that public health and management are both an integral part of the curriculum. While the Prall and Olsen reports differed in the recommended location for such training, this new program is completely

TABLE I

SUGGESTED COURSES FOR M.B.A., M.S.P.A., AND M.S.P.H. DEGREES, UNIVERSITY OF MISSOURI GRADUATE PROGRAM IN HEALTH SERVICES MANAGEMENT

Master of Business Administration Degree

FIRST YEAR	FALL	WINTER
Accy. 326—Managerial Accounting I	3	—
Accy. 327—Managerial Accounting II	—	3
Econ. 302—The Economic System	4	—
Econ. 303—Fundamentals of Economic Analysis	—	3
Mgmt. 301—Organization and Management of Human Resources	4	—
Fin. 303—Management of Finance	—	3
Mgmt. 304—The Industrial System and Production Management	—	3
Mgmt. 361—Managerial Statistics	3	—
Com. Health & Med. Prac. 310 & 311 Health Service Organization and Management, I & II	3	3
Total	17	15

Summer Externship (Three Months)—no credits

SECOND YEAR	FALL	WINTER
Mgmt. 419—Business and Public Policy	—	3
Mgmt. 467—Business Policy and Decision Making	—	3
Mktg. 302—The Market System and Marketing Management	—	3
Com. Health & Med. Prac. 470 & 471—Hospital Organization and Management, I & II	3	3
Com. Health & Med. Prac. 472—Medical Care Organization and Management, I & II	3	3
Collateral I, II, and III	9	—
Total	15	15

Master of Science in Public Administration Degree

FIRST YEAR	FALL	WINTER
Pol. Sci. 310—Principles of Public Administration	3	—
Pol. Sci. 330—Government Fiscal Administration	—	3
Pol. Sci. 401—Scope and Methods of Political Science	3	—
Pol. Sci. 403—Public Administration and Policy Development	—	3
Com. Health & Med. Prac. 310 & 311—Health Service Organization and Management, I & II	3	3
Electives	6	6
Total	15	15

Summer Externship (Three Months)—no credits

SECOND YEAR	FALL	WINTER
Pol. Sci. 450—Research, Non-Thesis	4	5
Com. Health & Med. Prac. 470 & 471—Hospital Organization and Management, I & II	3	3
Com. Health & Med. Prac. 472 & 473—Medical Care Organization and Management, I & II	3	3
Com. Health & Med. Prac. 300—Problems in Community Health	2	—
Com. Health & Med. Prac. 440—Public Health Administration	—	2
Electives	3	3
Total	15	16

Master of Science in Public Health Degree

FIRST YEAR	FALL	WINTER
Com. Health & Med. Prac. 300—Problems in Community Health	2	—
Com. Health & Med. Prac. 420—Principles of Epidemiology	3	—
Com. Health & Med. Prac. 430—Statistical Aspects of Public Health	—	3
Com. Health & Med. Prac. 440—Public Health Administration	—	2
Civil Eng. 447—Public Health Engineering	3	—
Com. Health & Med. Prac. 310 & 311—Health Services Organization and Management	3	3
Mgmt. 301—Organization and Management of Human Resources	4	—
Pol. Sci. 403—Public Administration and Policy Development	—	3
Pol. Sci. 330—Governmental Fiscal Administration	—	3
Total	15	14

Summer Externship (Three Months)—no credits

SECOND YEAR	FALL	WINTER
Com. Health & Med. Prac. 470 & 471—Hospital Organization and Management, I & II	3	3
Com. Health & Med. Prac. 472 & 473—Medical Care Organization and Management, I & II	3	3
Com. Develop. 364—Theory and Principles of Community Development	3	—
Com. Develop. 417—Government Social Policy and Institutional Resources	—	3
Electives in Management, Economics, Political Science or Community Health and Medical Practice	6	6
Total	15	15

interdisciplinary between the Schools of Medicine and Business and Public Administration and the Graduate School. The program is tailored to the needs of each student, and the graduate is provided breadth and depth of academic training to be a successful health services manager.

The earlier reports recommended that the master's program consist of nine months of formal academic training on the university campus and 12 months of administrative residency (internship) under an approved preceptor. This approach was suitable when there was a minimum of core knowledge concerning hospital administration and most of the students had prior experience in the field before entering the graduate program. In more recent years, the average age of entering students has dropped to 24 years for most graduate courses. The average student is admitted to the program after completing his undergraduate studies or has just completed his two-year military obligation.

In view of the younger entering student, many of the graduate program faculties re-evaluated the one year residency in comparison to an additional academic year. Those favoring the two-year academic program maintained that the student was going to practice for some 40 years and it would be more advantageous to incorporate an additional academic year and drop the residency training. The University of Chicago, Cornell University and the University of Iowa programs have dropped the residency year and Yale University has three semesters of academic work. Columbia University, the University of Michigan and the University of Pittsburgh programs are among those now considering the two-year academic program. The University of Missouri, with four semesters on campus and a required summer externship, is among the leaders in training broad-gauged administrators for our health, hospital and related institutions and agencies.

Summary

Early leaders in the field recognized the specialized knowledge and skills required to be a hospital administrator and strongly recommended that special programs for such training be established. They were cognizant that apprenticeship-type training was necessary at the outset of an emerging profession, but an academic approach, particularly at the graduate level, was the long-range solution to provide well versed and experienced hospital administrators.

A new Graduate Studies in Health Services Management has been established at the University of Missouri as an interdisciplinary, two-year academic program under the aegis of the Schools of Medicine and Business and Public Administration and the Graduate School. It offers the Master of Business Administration, the Master of Science in Public Administration and Master of Science in Public Health and, in so doing, makes it possible to tailor the program to meet the needs and desires of the student. This flexible curriculum supplements, rather than duplicates, the student's previous training and experience.

Although the primary aim of the program is to train leaders for the field of health services management, the faculty conducts basic and applied research, provides continuing extension education programs and cooperates in joint projects with other hospitals and agencies. This comprehensive, flexible, interdisciplinary and integrated graduate program will attempt to instill new ideas and concepts in the training of hospital and health leaders of the future.

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MICHAEL BERNREITER, M.D., ***Kansas City***

Cardioversion

Case Reports

Chronic rhythmic disturbances of the heart have been treated in the past with vagal stimulation. Renewed interest in the therapy of cardiac arrhythmias has emerged from the successful clinical application of external countershock. The technique of this method has received wide application since the report of Zoll *et al.*[1]

The limitation of drug therapy in an attempt to terminate ectopic cardiac arrhythmia is well known. It may take days or weeks to control rapid cardiac action. If the ventricles are driven at a rate of 160 or more, the coronary circulation becomes markedly impaired, and a serious cardiac emergency requiring immediate treatment may then exist. Antiarrhythmic drugs like quinidine depress cardiac contractility and frequently prolong atrioventricular and intraventricular conduction. The use of quinidine to reverse chronic atrial fibrillation is associated with 35% toxic reactions and 2% fatal outcome. Digitalis may produce serious toxic reactions, particularly in older people. Furthermore, some ectopic rhythms do not respond to any of the drugs commonly used for these conditions.

External countershock provides a simple means of restoring sinus mechanism within seconds.[2, 3] Depolarization of the entire heart is achieved by the electrical discharge across the heart, the ectopic focus is extinguished and the sinus node (having the highest firing power) will become the dominant pacemaker.

Apparatus and Technique

In our department at St. Mary's Hospital, we are using a DC countershock instrument calibrated in energy units.* We usually begin with the lowest energy setting after proper synchronization. If the shock is placed within the vulnerable period of the cardiac cycle (apex of T wave), ventricular fibrillation usually occurs. The safest period is the downstroke of the R wave. Digitalis must be stopped at least 24 hours before cardioversion to reduce myocardial irritability, and potassium depletion should be corrected. Pre-treatment with quinidine is useful. After reversion, a maintenance dose of quinidine is frequently required in atrial fibrillation. It is customary in our department to induce slight amnesia by small intravenous doses of sodium pentothal.

Selection of Patients

Cardioversion is the treatment of choice in chronic atrial flutter and in ventricular tachycardia, particularly if accompanied by a fall in blood pressure and pulmonary edema. If widening of the QRS complex results because of drug therapy or as a complication following myocardial infarction, cardioversion is a much safer and quicker method to control the rhythmic disturbance. Some of these patients are critically ill and the prompt restoration of the normal rhythm has proved to be life saving.

Atrial fibrillation responds well to cardioversion, but patients with large left atria are usually not able to sustain a sinus mechanism. Patients with recurrent attacks of atrial fibrillation, converted with quinidine but not maintained with adequate doses, are poor candidates for cardio-

Case reports in which rhythmic disturbances of the heart have been treated successfully with electric countershock across the closed chest. The author advises discontinuing digitalis drugs, establishing electrolyte balance, particularly of potassium, and inducing a mild amnesia in all cases before cardioversion. The direct current must be applied during the safe period of the cardiac cycle, which is during the downstroke of the R wave. Doctor Bernreiter is Director of the Department of Electrocardiography at St. Mary's Hospital, Assistant Clinical Professor of Medicine at the University of Kansas School of Medicine and Associate Clinical Professor of Medicine at the University of Missouri School of Medicine.

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* Manufactured by the Electrodyne Co., Norwood, Mass.

version. In some of these patients with intractable heart failure, even short periods of regular rhythm accomplished by cardioversion may be beneficial. In sinus tachycardia, nodal tachycardia and frequent premature contractions, cardioversion has little or no value.

CASE REPORTS

A few cases are reported in detail.

Case # 1. A 60-year-old woman was admitted to the hospital with a chief complaint of rapid heart rate and chest pain. A routine 12 lead electrocardiogram showed a 2:1 atrial flutter with a ventricular rate of about 150 per minute. Rapid digitalization produced a 3:1 atrial flutter, but a sinus mechanism could not be established. Digitalis was discontinued. Under mild anesthesia, a direct curent countershock of 45 watt-seconds was applied across the chest. The flutter changed to atrial fibrillation and in a few seconds a sinus mechanism was established (Fig. 1). The patient has been free of symptoms for the last six months.

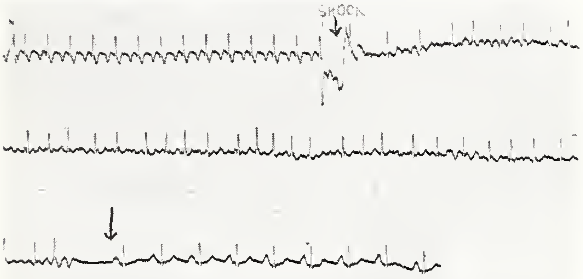

Fig. 1 The tracing is a continuous Lead II. The flutter waves are best seen in the beginning of the top strip. The atrial rate is approximately 300 and the ventricular rate is 150. A low energy current was applied (arrow) and this was followed by atrial fibrillation. Within a few seconds and without further therapy, a sinus mechanism occurred (arrow, third strip).

Case # 2. A 45-year-old man has been in chronic atrial fibrillation for at least four years. His ventricular rate has been fairly well controlled with digitalis. Several attempts to terminate the ectopic rhythm with increasing doses of quinidine were not successful and, at one time, rather alarming symptoms of quinidine intoxication became apparent with doses of 36 grains. After digitalis was discontinued for two days, a direct current countershock across the chest was delivered. A sinus mechanism occurred with frequent atrial premature contractions. These gradually disappeared in a few minutes (Fig. 2). The patient has been on a maintenance dose of quinidine 3 grains, t.i.d. for the last three months, and his most recent electrocardiogram shows a sinus mechanism with occasional atrial premature contractions. Further digitalization since cardioversion has not been necessary.

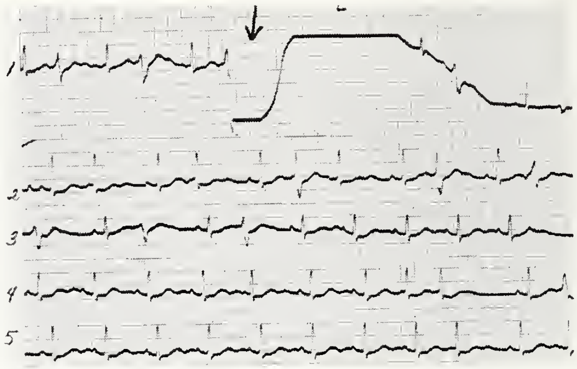

Fig. 2 Continuous Lead II. The beginning of the tracing shows atrial fibrillation. Direct current was applied (arrow) and a sinus mechanism was quickly established. After conversion, frequent ventricular and atrial premature contractions became apparent, but these disappear for the most part toward the end of the tracing.

Case # 3. A paroxysm of atrial tachycardia with a rate of 190 in a 70-year-old man was abruptly terminated with a single transthoracic direct current countershock. Before sinus mechanism was established, physical findings gave evidence of beginning congestive failure. Sinus tachycardia persisted for several hours (Fig. 3), but gradually the cardiac rate reached about 80 per minute. There has been no recurrence in five months.

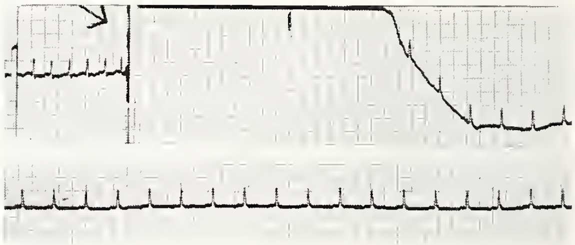

Fig. 3 Paroxysmal atrial tachycardia. Direct current countershock across chest produced sinus tachycardia which, after a few hours, slowed to a rate of 80 per minute.

Case # 4. A 56-year-old woman had continuous atrial flutter of two years duration with a ventricular rate of 150. She experienced chest pain on exertion. The flutter was terminated with one direct current countershock. There has been no recurrence in nine months (Fig. 4).

Case # 5. A 35-year-old woman was admitted with inactive rheumatic heart disease, manifested by mitral stenosis. A commissurotomy was done five years ago. Atrial fibrillation was present for four years. Lately, she had developed severe signs of con-

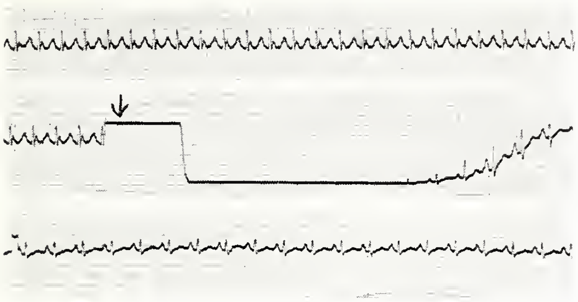

Fig. 4 Continuous atrial flutter of two years duration. Irresponsive to any drug therapy. Direct current shock with low energy level immediately produced sinus mechanism.

gestive heart failure necessitating almost complete bed rest. The left atrium was large. Intractable congestive heart failure developed. These usually are not good candidates for cardioversion because, once sinus mechanism is established, it cannot be maintained. But in this and other cases where the entire therapeutic armamentarium has been tried and failed, and where the patient's condition is rapidly deteriorating, reversion producing a brief spell of normal rhythm will have a beneficial effect. This is particularly so in patients who have another complicating disease, like pneumonia, or who need some emergency surgery, or even preparatory to cardiac surgery.

Discussion

Most cardiac arrhythmias can today be terminated successfully and rapidly with a high energy current delivered across the chest. Once an arrhythmia is established, it frequently becomes self-sustaining by the establishment of an abnormal pathway. This abnormal pathway and the arrhythmia can be "erased" by complete depolarization of the heart with electric countershock across the chest. Synchronized direct current shock is a nearly ideal method for terminating cardiac arrhythmias.

Summary

Cardioversion of ectopic arrhythmias with a special direct current administered during the safe period of the cardiac cycle produces uniformly good results. The overall success is 93%. No fatalities have occurred, although some patients were critically ill or even terminal. Digitalis should be discontinued at least 24 hours before shock therapy. Electrolyte disturbances, particularly potassium deficiency, should be corrected. It is customary in our department at St. Mary's Hospital to lightly anesthetize the patient. Although some medical centers have administered cardioversion without anesthesia, I much prefer to have the assistance of a qualified anesthetist. While 50% of arrhythmias will convert with one low level shock, some will require four to five shocks with increasing energy levels. If one selects the patients with care no untoward complications should arise.

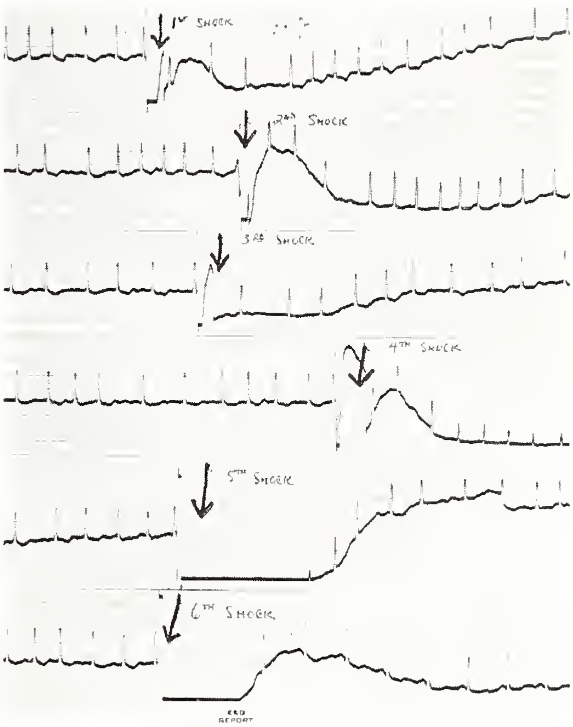

Fig. 5 Rheumatic heart disease, severe, with atrial fibrillation. Congestive heart failure, intractable. It took six shocks with increasing intensity to produce a sinus mechanism as seen at the end of the tracing. After the sinus mechanism was established, the patient's condition improved markedly and the symptoms of congestive failure disappeared. About four weeks after conversion, patient developed pneumonia and atrial fibrillation again occurred.

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Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
[illegible] County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

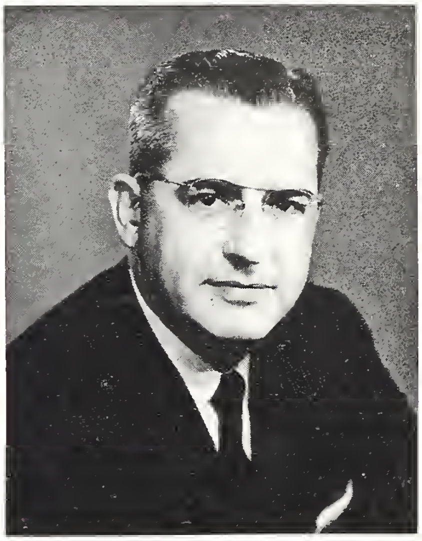
On Saturday, April 8, 1967, Dr. Byron M. Stuart handed me a gavel, symbolically transferring the office of President of the Missouri State Medical Association from his hands to mine. Doctor Stuart's year in office was a trying one with major upheaval and change occurring on both state and national levels. The medical profession of Missouri owes him a debt of gratitude for his dedicated leadership during that period.

The past 12 months have afforded me, as President-Elect of MSMA, numerous opportunities to reflect upon the problems which we, as physicians, face and which our Medical Association must help resolve. As I view the situation, we, as individuals and as a Medical Association, are aware of but not yet adapting to momentous changes in society and our relationship to that society.

With a little objective observation, a reasonable dash of imagination and a modicum of foresight, it is fairly obvious that many physicians are going to have to change their thinking. In adapting to the aforementioned changes in society, we are going to have to concern ourselves with matters which most of us will find new, possibly repugnant, definitely time consuming, but vitally important to the best interests of our patients and ourselves.

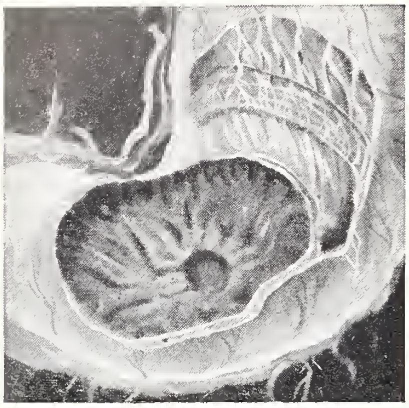
It is time for the medical profession to engage in some responsible enlightened deliberation and forceful action. We must react to our problems or face the distinct probability of being overwhelmed by them. Our goals cannot be attained by the individual actions of the MSMA Council, its officers, the House of Delegates or by individual physicians acting independently. Effective action will depend on the coordinated efforts of all of these.

And so, as my first message as President of the Missouri State Medical Association, I would urge all member-physicians to put aside the apathy and indifference which have tended to divide us in the past and which are partially responsible for our present situation. Let us join together to analyze current problems, synthesize realistic and practical solutions and, at the same time, continue our time-honored duty to our patients.



Hector W. Benoit, Jr., M.D.

In peptic ulcer...
antacid
therapy
with a
new
benefit



CONTAINS A BALANCED COMBINATION OF THE MOST WIDELY USED ANTACIDS— FOR RAPID NEUTRALIZATION. PLUS SIMETHICONE— TO CONTROL THE FACTOR WHICH ANTACIDS ALONE CANNOT INFLUENCE.

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- The positive action of simethicone helps relieve the painful gas symptoms which often accompany the peptic ulcer syndrome.
- The nonfatiguing flavor and smooth, nongritty consistency of tablets and liquid encourage continued patient cooperation during long-term therapy.

Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

The Stuart Company, Pasadena, California
Division of Atlas Chemical Industries, Inc.

Stuart

Woman's Auxiliary

Mrs. John M. Williams

The Annual Session of the Missouri State Medical Association and the Woman's Auxiliary met in St. Louis April 6-9—a simple statement about another meeting to those outside the membership of both organizations. To those who took part, it meant a great deal more. It meant the closing of a most sucessful year to Dr. Byron Stuart, President of the State Medical Association, and to Mrs. Wallace R. Stacey, President of the Woman's Auxiliary. We salute and thank them for the year of their lives dedicated to the service of our organization. The Annual Session meant the installation of the new President, Dr. Hector Benoit, Jr. of Kansas City. We congratulate him on the honor and responsibility he has assumed. We realize this and the Annual Session meant hard work for the officers and committees handling it. We thank them wholeheartedly for the results—a most worthwhile meeting.

My installation as President of the Woman's Auxiliary meant a great many things to me. It is impossible to express my gratitude for the heartwarming good wishes and support given so genuinely by everyone. One needs this to start off the new Auxiliary year. As President, one has finally reached the moment of decision. Your house must be in order—your intentions, convictions and ideas must be clarified and crystal-clear. Seeing the fine calibre of men and women who attended our Annual Session only reaffirmed my convictions. The medical doctors, by virtue of their profession, comprise one of the most colorful groups in our country. Individually, they are loved and respected by their patients. Collectively, they seem to attract countless complaints about rising health care costs, lack of consideration for patients, etc. This is difficult to understand or explain.

I have read several articles this past year questioning the value and scope of the county medical society. I hear and see constant indications of a lack of interest by doctors' wives, in belonging to and working with the Auxiliary. At least 1,500 doctors' wives in Missouri do *not* belong to the Auxiliary!

We must realize that our numbers are small, but our impact can be great. Since our mistakes are magnified and our contributions are minimized, the value of our small groups must never be questioned, only up-graded by the vitality of interest and progress. Our programs and goals for the advancement of medicine and public health remain the same, but we must go further into the field of public relations. A constant effort and awareness on the part of the doctor and his wife to promote good will and better public relations has become essential.

Also essential is the collective thinking and action of each of these individuals in their own county group. It is my conviction that every doctor's wife should feel it an honor and privilege to belong to the one organization which represents her and her husband's interests. How can we expect the citizenry to respect our efforts and views if we will not support them ourselves? To all those who are are "too busy" with other community demands, why not reevaluate and schedule the Auxiliary at the top of your list in importance, instead of at the bottom? It is inevitable that a working and knowledgeable auxiliary member will become a leader not only in her auxiliary, but also in her efforts in other phases of community activities. Auxiliary work is community work. *Auxiliary leadership becomes a community leadership.* An auxiliary can be the pilot organization in any needed community project that depends on large numbers or groups working cooperatively.

To accomplish any of this, every doctor's wife must be convinced that there is a need and a place for her in the Auxiliary. If the doctor and his wife feel that the Auxiliary is ineffectual and not deserving of precious time, it is then time for the doctor and his wife to step in and help create a truly vital and representative organization. We must work together, doctor, to see that each doctor's wife feels the same obligation and necessity of belonging to the Auxiliary as you do in belonging to your own Medical Society.

Diagnosis:

cystitis?
pyelonephritis?
pyelitis?
urethritis?
prostatitis?

in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.
(initial adult dose)

Indications: Urinary tract infections caused by gram-negative and some gram-positive organisms.

Side effects: Mainly mild, transient gastrointestinal disturbances; in occasional instances, drowsiness, fatigue, pruritus, rash, urticaria, mild eosinophilia, reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), and reversible photosensitivity reactions. Marked overdosage, coupled with certain predisposing factors, has produced brief convulsions in a few patients.

Precautions: As with all new drugs, blood and liver function tests are advisable during prolonged treatment. **Pending further experience, like most chemotherapeutic agents, this drug should not be given in the first trimester of pregnancy. It must be used cautiously in patients with liver disease or severe impairment of kidney function.** Because photosensitivity reactions have occurred in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Bacterial resistance may develop.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents give a false-positive reaction.

Dosage: Adults: Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily. Children may be given approximately *25 mg. per pound* of body weight per day, administered in divided doses. The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

How supplied: Buff-colored, scored Caplets® **of 500 mg. for adults,** conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000. **250 mg. for children,** available in bottles of 56 and 1000.

References: (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy—1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

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eradicates most urinary tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported *in more than 2 out of 3* patients with either chronic or acute gram-negative infections.[1]

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas[2]... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

EDITORIALS

PRINCIPLES, NOT DOLLARS

The medical profession, during the past two years, has witnessed a spirited debate on Medicare, on the extent of Federal intrusion into medical practice and upon the ultimate interference of the government in the physician-patient relationship. Now that Medicare has become an actuality, time will reveal whether medical practice will remain unchanged or, instead, we will observe a sly, quiet and in-depth encroachment of government into medical affairs. It is inconceivable to me that the authority to regulate medical practice would be granted and not used. I recall no similar circumstance where such broad power has not been exercised.

My fears in this direction were certainly not allayed by the pronouncements of Representative Wilbur Mills. You will recall that Wilbur Mills was long a bulwark of medicine and he stood solidly against Medicare. I have never been told what changed his mind; principle or pressure. It is interesting, however, after he reversed his stand and became a proponent of Medicare, that his pronouncements to placate doctors were in the direction of the physician's income. "We are not," he said, "going to deal with physicians directly or tell them what they may charge their patients."

To me, this was a very disturbing statement. If I am informed at all, I would not expect tampering with the physician's income to be the FIRST sugar-coated step into socialism but, rather, the final unpopular step which would be taken only after the medical profession had been so battered that resistance was futile. At this stage of the battle, I am much more concerned by what Wilbur Mills DID NOT say. He failed to give any assurance that doctors would be left the freedom to practice medicine in the manner which they believed best for their patients and within the dictates of their own consciences.

Certainly, unless I am stupid, I expect my mental endowment and years of preparation to be recompensed fairly. Since, at the age of 32 years, I was only beginning practice and had only debts, it is reasonable that I anticipate a good living for, in turn, society expects a great deal of me. This material aspect of practice, however, is no way as important as pride and the right of independent decision which I exercise in treating the patients who come my way. Let Federal authority erode away that pride and right of decision and there is nothing left which would have induced me to become a doctor. This is precisely the reason why today's medical graduates are leaving England. First, they were increasingly told HOW they could treat their patients. Later, they were told that a bankrupt National Health Services couldn't afford to pay them.

No, Wilbur Mills has not been at all comforting. Nor can he be!

WILFRED E. WOOLDRIDGE, M.D.
Bulletin of the Greene County
Medical Society
March 1967

AMBULANCE SERVICE AND THE COMMUNITY HOSPITAL

There is no question that our hospitals and physicians in communities outlying the metropolitan areas are becoming increasingly more efficient in their care and management of the critically ill patient, whether the illness be the result of trauma, coronaries, poison or otherwise. However, all our technological advances may be for naught if initial care to the patient is haphazard or administered by personnel with inadequate training. For instance, who is usually the first to see victims of an auto accident? In the majority of cases, it will be ambulance drivers. Certainly with the carnage as it is on our highways today, there are fractures, hemorrhage, back injuries, etc. that urgently need proper emergency care.

Most metropolitan areas have a well organized and trained ambulance service for the general hospitals. The training of ambulance drivers in basic first aid care, proper moving of patients and operation of basic equipment is administered in many cities by the fire department. Qualified first aid instructors give annual refresher courses in first aid, and physicians provide lectures in emergency fracture splinting, obstetrics and cardiac care.

As physicians in smaller communities, we are being somewhat less than fair to our patients if we don't make every effort to bring about as efficient ambulance service as possible. I feel certain that most private ambulance services would welcome our recommendations and a regular program of instruction for their personnel. The guidance and initiation of such programs should come from the medical societies (city or county), but could be administered by fire departments.

In conclusion, for the smaller community to really benefit from our medical advances in intensive care, we as physicians must not forget the importance of initial care. Remember, with better trained ambulance personnel, the life saved may be your own.

JOHN K. HOLCOMB, M.D.
Cape County Journal

THE AMA CONVENTION—AND WHY WE GO

Buckminster Fuller, the American architect-engineer-philosopher-poet, has predicted that education will become the largest and most important of all industries.

He bases this on a belief that knowledge is the one resource of man which not only cannot be depleted, but can, indeed, be consciously increased. In the advanced, automated world of the near future, he says, "leisure" time gained from the workaday world through automation may be spent in the classroom; in fact, people may be paid to go to school.

Physicians have long understood the value of knowledge—of education.

We are forever involved in the task of "keeping up"—without pay, it may be noted.

There are few physicians who regard the task as onerous, however. "Keeping up" is part of being a physician; it is a privilege and a responsibility.

A number of reservoirs of medical information may be tapped by the physician. These include colleagues, medical journals, medical news publications, continuing education courses, medical meetings and conventions, drug detail men and miscellaneous others.

Every year there is the "big show" where the physician can tap practically every reservoir: the Annual Convention of the American Medical Association.

At the 1966 Annual Convention about 600 scientific papers were presented, and nearly 300 scientific exhibits were on display as well as hundreds of industrial exhibits.

No other medical meeting in the world matches the range of subjects presented, from reviews of general medicine to experimental medicine and therapeutics.

The 116th Annual Convention of the American Medical Association will be held in Atlantic City June 18-22 this year. Convention Hall and surrounding hotels will house the Scientific Program; the House of Delegates will meet at the Chalfonte-Haddon Hall Hotel.

Among special presentations planned are four general scientific sessions on backache, healing, patient care and sex.

The 22 Scientific Sections will offer programs individually, and many will hold joint meetings on subjects of common interest. A full schedule of medical motion pictures is planned. At least five color telecasts will be broadcast, live from a Philadelphia hospital in cooperation with the University of Pennsylvania School of Medicine.

If knowledge is a resource, as Buckminster Fuller says it is, the AMA Annual Convention is surely a mother lode.

Blessed event?

Not entirely, when nausea and vomiting occur in early pregnancy. Emetrol offers prompt and safe relief. Local rather than systemic action provides emesis control on contact with the hyperactive G.I. tract.* In a study of 123 pregnant women, the drug produced measurable improvement in 79% of patients in controlling vomiting.[1]

*As shown by *in vitro* studies.
1. Crunden, A. B., Jr., and Davis, W. A.: Am. J. Obst. & Gynec. *65*:311 (Feb.) 1953.

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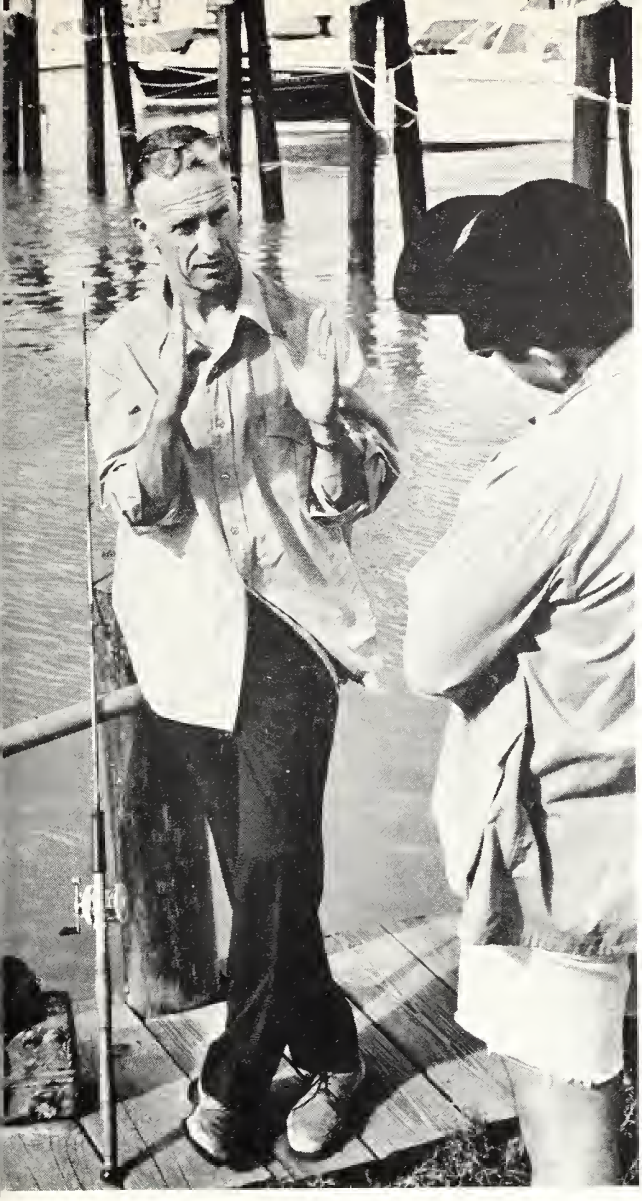
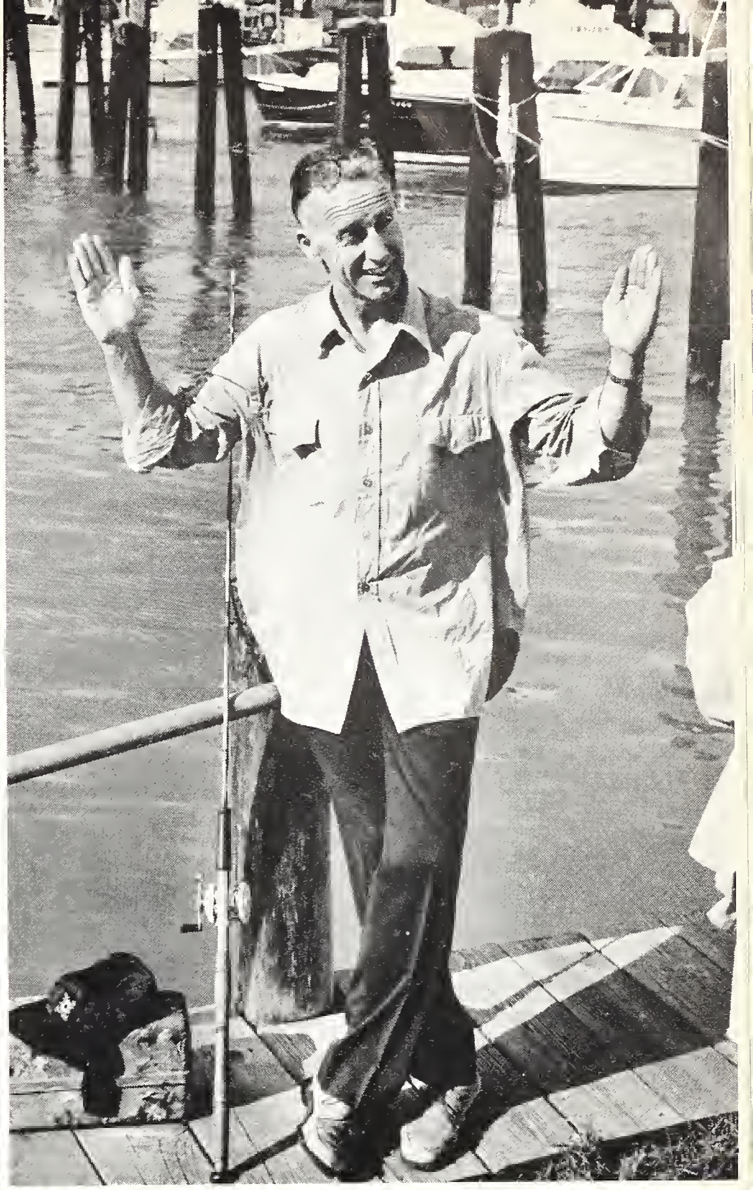
phosphorated carbohydrate solution
emesis control

Picture of bursitis

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Paraflex® (chlorzoxazone)* 250 mg.
Tylenol® (acetaminophen) 300 mg.

rafon Forte helps to relieve pain,
tore mobility . . . stop pain-spasm feedback

re is why. PARAFON FORTE provides:
onsalicylate analgesic equal to aspirin for the relief
)ain,[1,2] yet unlikely to produce the irritation to the
tric mucosa so often associated with salicylate
rapy[3]
l a skeletal muscle relaxant shown to have up to a
our span of action,[4-6] and to retain effectiveness
n on continued administration,[5-7] but which does not
'e the central effects of tranquilizing compounds.

scribe PARAFON FORTE for lasting spasmolysis
l analgesia in sprains, strains, myalgias, low back
n, bursitis and other musculoskeletal disorders.
ır patients will appreciate the restored comfort
l lasting freedom of movement it usually provides.

Cautions and side effects: Use with caution in patients with known drug sensitivity. If a hypersensitivity reaction or symptoms suggestive of liver dysfunction are observed, the drug should be stopped. Occasionally, drowsiness, dizziness, lightheadedness, malaise, overstimulation or gastrointestinal disturbances may be noted; rarely gastrointestinal bleeding, allergic skin rashes, petechiae, ecchymoses, angioneurotic edema or anaphylactic reactions may have been drug associated. While *Paraflex* (chlorzoxazone) has been suspected as being the cause of hepatic toxicity in approximately eighteen patients, it was not possible to state that the dysfunction was or was not drug induced. ***Dosage:*** Two tablets q.i.d. ***Supplied:*** Scored, light green tablets, imprinted "McNEIL"—bottles of 100.

References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

*U. S. PATENT NO. 2,895,877

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County Society News

FIRST DISTRICT

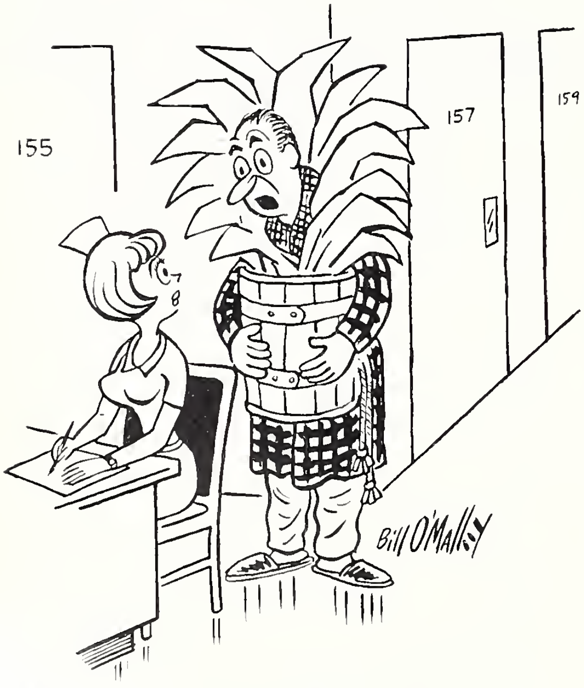
COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Thirty-five physicians and members of the clergy attended a special meeting of the Buchanan County Medical Society and the St. Joseph Ministerial Alliance on March 28 at St. Joseph.

Following dinner, two members of each profession discussed problems of mutual concern to the clergy and the medical profession. Representing the medical profession were Robert B. Bristow, M.D. and Thompson E. Potter, M.D. The two minister panelists were Rev. Bill O'Quinn, pastor of the Ashland Avenue Methodist Church, and Rev. William G. Shoop, pastor of the First Christian Church. Moderator for the discussion was the President of the Ministerial Alliance, Rev. Ernest E. White, minister of the Wyatt Park Baptist Church. A spirited question and answer session followed the presentation by the panel. Presiding jointly at the event were Dr. Irwin I. Rosenthal, President of the Medical Society, and Rev. White.

Maxwell Day, M.D., *Secretary*



'Phsst. . . . Nurse . . . have my visitors left yet?"

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly meeting in Chillicothe on March 9 with 39 members and guests in attendance.

This was our annual "Doctor's Day," and the Auxiliary entertained us with a most enjoyable and amusing skit. They then presented their favorite doctor with a medal and blue ribbon.

Dr. Joseph Fisher, a radiologist from St. Joseph, presented a paper on diagnosis and treatment of "Cervical Spine Syndrome." This paper met with much interest, as we have all seen this type of patient in whom treatment was unsatisfactory.

Our Society and community were saddened by the death of Dr. Edgar J. Mairs on March 12. Dr. Mairs had practiced in the Trenton area for many years.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society was held on March 14 at Lexington with twelve members present.

Following the dinner, President William LaHue presided over the business meeting which consisted of reading and discussion of correspondence. The delegates from Lafayette and Ray County read resolutions to be taken up at the Missouri State Medical Association meeting. These resolutions were discussed and the Society expressed its desires to the delegates concerning them.

Following the business meeting, the program was turned over to the Woman's Auxiliary who honored the members of the Lafayette-Ray County Medical Society in observance of "Doctor's Day." All the members of the Medical Society were honored by the Auxiliary, but special honor was given to second and third generation doctors of this Society. Thomas Cook was noted to be the only third generation doctor-member. Second generation doctor-members are as follows: W. E. Koppenbrink, George DeVault, Jordon Kelling, J. S. Cope and Douglas Kelling.

what time is it?

For the past
two years
there's been
one new case
of active tuberculosis
reported for every
four thousand
of U.S. population.

it's time to tine.

Tuberculin,
Tine Test
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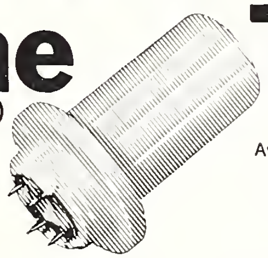

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Following the program, the meeting was adjourned.

Wayne Boydston, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area County Medical Society

The Mineral Area Medical Society met on March 23 at Farmington. The following doctors were present: Charles H. Appleberry, Ben M. Bull, Charles W. Chastain, W. Paul Dennis, William Ford, Jack L. Foster, Emmett F. Hoctor, Robert A. Huckstep, John W. Hunt, Jr., Jack Mullen, Retus W. Osborn, Kirby L. Turner, George L. Watkins, Jr. and Norma Dunning Farmer. On the program for the evening was Mr. Tom O'Brien, Executive Director, Missouri Medieal Service (Blue Shield). His subject was "Current and Projected Trends in Blue Shield Which May Affect Your Practice." Mr. O'Brien discussed as one item of his talk the prevailing fee concept. He called attention of the Society to Blue Cross and Blue Shield's special insurance for members of the Society.

Following Mr. O'Brien's appearance before the Society and after a short recess, the business meeting was called to order. The minutes of the last meeting were read and approved without comment. New business to come before the meeting was the application for membership by Dr. Norma Dunning Farmer. Dr. Farmer's application was favorably acted upon and she already has been apprised of that fact.

It was the pleasure of the members at this meeting to cooperate with the Lions' Eye Bank Program by stating that the latter may present their program to the hospitals involved in this area. This being the extent of activity of the Society, motion was made and seconded and the Society adjourned in due form.

William Ford, M.D., *Secretary*

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Take five...

Labstix® provides 5 important urinary findings*—on a single reagent strip! That's *more* information than you can get from any other single reagent strip. You know the results in just 30 seconds—while the patient is still in your office—and readings are reliable and reproducible. Labstix is easy to handle, too. Never goes limp, even when wet, because it's made with clear, firm plastic. And results with Labstix are easy to read—color contrast between the test areas and the transparent plastic is clearly defined. An unexpected "positive" from testing with Labstix may help in detecting hidden pathology before marked symptoms are manifest.

*Blood; ketones; glucose; protein, and pH.

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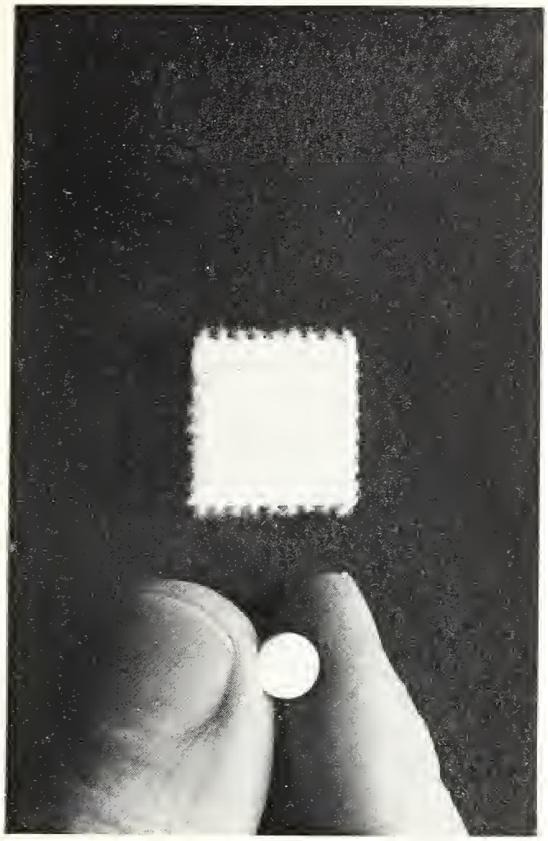
40167



...Plus one

You can extend your testing scope by including Ictotest® Reagent Tablets, the 30-second determination for bilirubinuria—which can be an early sign of obstruction of the common bile duct, infectious hepatitis, or other liver disease. This test is also useful for detecting liver damage from carbon tetrachloride and other halogenated hydrocarbons used as industrial and household solvents. Positive findings with the urine-testing team of Labstix and Ictotest can represent significant guides to patient management in many clinical situations. "Negatives" may help rule out suspected abnormalities over a broad clinical range and are important for the patient's record.

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Note: *AMERICAN HOSPITAL FORMULARY SERVICE CATEGORY NUMBER 36:88*

40167

Ethical Responsibilities in Prescribing Drugs and Devices

In its continuing effort to define and inspire highest ethical standards for members of the medical profession, the Judiciary Committee of the American Medical Association adopted the following statement at its meeting on March 12, 1967:

> **It is unethical for a physician to be influenced in the prescribing of drugs or devices by his direct or indirect financial interest in a pharmaceutcal firm or other supplier. It is immaterial whether the firm manufactures or repackages the products involved.**
>
> **It is unethical for a physician to own stock or have a direct or indirect financial interest in a firm that uses its relationship with physician-stockholders as a means of inducing or influencing them to prescribe the firm's products. Practicing physicians should divest themselves of any financial interest in firms that use this form of sales promotion. Reputable firms rely upon quality and efficacy to sell their products under competitive circumstances, and not upon appeal to physicians with financial involvements which might influence them in their prescribing.**
>
> **Prescribing for patients involves more than the designation of drugs or devices which are most likely to prove efficacious in the treatment of a patient. The physician has an ethical responsibility to assure that high quality products will be dispensed to his patient. Obviously, the benefits of the physician's skill are diminished if the patient receives drugs or devices of inferior quality.**
>
> **Inasmuch as the physician should also be mindful of the cost to his patients of drugs or devices he prescribes, he may properly discuss with patients both quality and costs.**

Men and Women Compression Hosiery

Support—Sheer &
Surgical Elastic
Pneumatic

From tired legs
to severe
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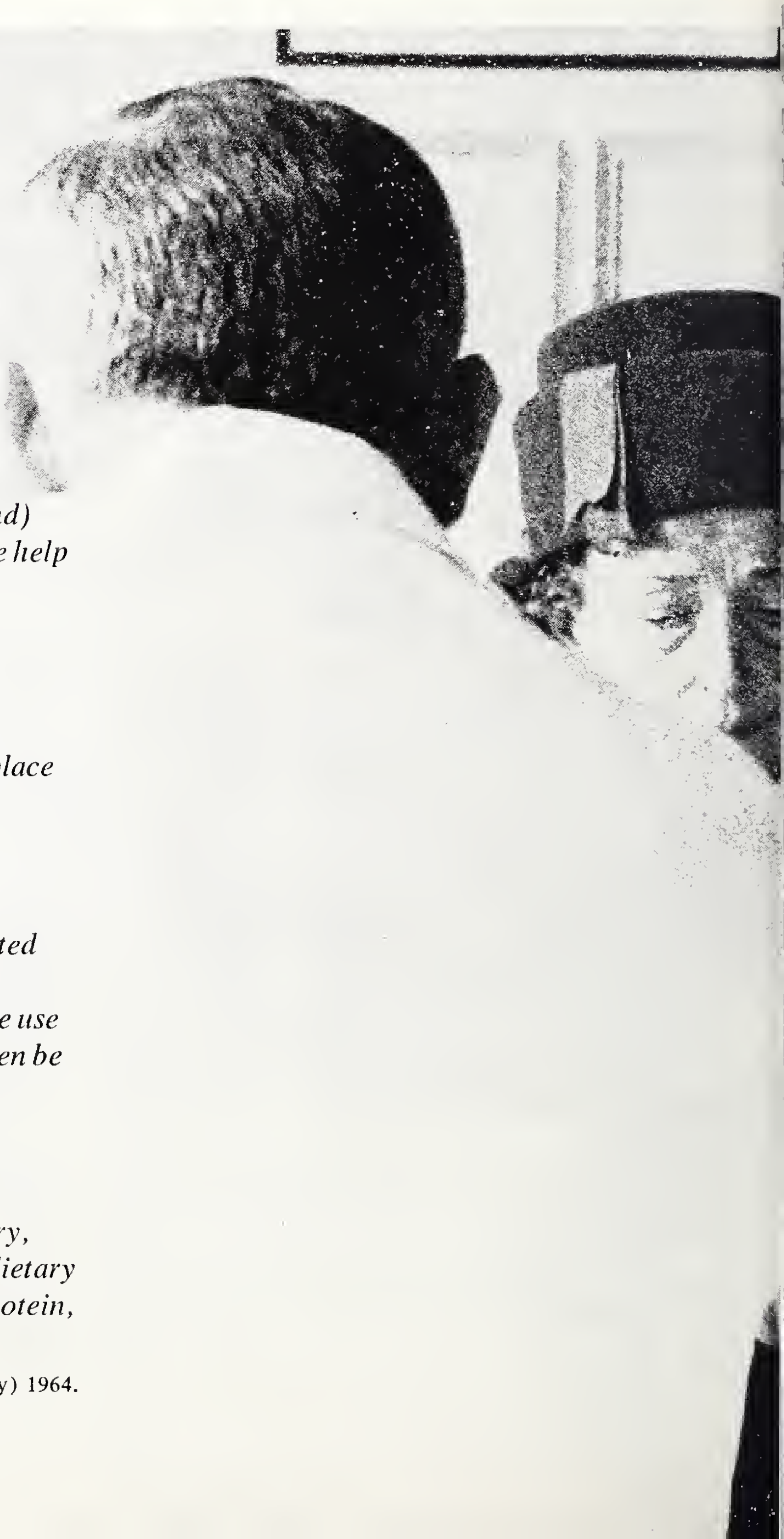
There is a growing senescent body of people on their way to malignant inactivity, who sorely need your interest and direction to help them back to a more active and useful life. There are medicines too, designed to help. One such has proved useful in clinical practice.



"A steroid-nutritional compound (Mediatric) was used in 100 patients to relieve some of the symptoms caused by degenerative changes of aging . . . This therapy resulted in improvement of 75 per cent of the patients . . ."

McNeill, A. J.: Clin. Med. *8*:518 (Mar.) 1961.

"Mediatric (steroid-nutritional compound) capsules, one a day, seem to give definite help to debilitated patients."

Arnold, E. T., Jr.: Geriatrics *12*:612 (Oct.) 1957.

"Nutritional and hormone bolstering of function in the aged may have a useful place in geriatrics."

Morgan, A. F.: Gerontologist *2*:77 (June) 1962.

"In diets which for any reason are restricted in calories, enough of these substances (B vitamins) may not be supplied . . . The use of B and C vitamin supplements may then be justified and indeed may be necessary."

Morgan, A. F.: Gerontologist *2*:77 (June) 1962.

"Intensive nutritional therapy is necessary, especially in elderly people, to correct dietary deficiencies created by large losses of protein, vitamins and other nutrients."

Riccitelli, M. L.: J. Am. Geriatrics Soc. *12*:489 (May) 1964.

Mild mood depression, oor appetite, little nterest in the present or uture. Does this picture nean that she's giving in o functional fatigue?

When functional fa- igue is part of her prob- em, Alertonic can help ounteract accompanying pathy and inertia. It elps lift mood, stimulate ppetite, and establish ew interest in daily life.

Pleasant-tasting Alertonic combines pipradrol hydrochloride—a gentle cerebral stimulant—with an excellent vitamin and mineral formula, in a satisfying 15% alcohol vehicle.

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Adequate dosage is important: Prescribe Alertonic—one tablespoonful t.i.d., 30 minutes before meals ...tastes best chilled.

And for your patient's sake, prescribe Alertonic in the convenient, economical one-pint bottle.

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Each 45 cc. (3 tablespoonfuls) contains: alcohol, 15%, pipradrol hydrochloride, 2 mg.; thiamine hydrochloride (vitamin B_1) (10 MDR*), 10 mg.; riboflavin (vitamin B_2) (4 MDR), 5 mg.; pyridoxine hydrochloride (vitamin B_6), 1 mg.; niacinamide (5 MDR), 50 mg.; choline,† 100 mg.; inositol,† 100 mg.; calcium glycerophosphate, 100 mg. (supplies 2% MDR for calcium and for phosphorus) and 1 mg. each of the following: cobalt (as chloride), manganese (as sulfate), magnesium (as acetate), zinc (as acetate), and molybdenum (as ammonium molybdate).

*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

Indications: 1. Functional fatigue such as that often associated with: a depressing experience or stressful time of life; advancing years; convalescence; limited activity or confinement. 2. Poor appetite and vitamin-mineral deficiency as they occur in: patients having faulty eating habits; geriatric patients who are losing interest in food; patients convalescing from debilitating illness or surgery.

Contraindications: As with other drugs with CNS stimulating action, Alertonic is contraindicated in hyperactive, agitated or severely anxious patients and in chorea or obsessive compulsive states.

Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

Dosage: Adults, 1 tablespoonful; children (over 15 years old), 1 to 2 teaspoonfuls; children (4 to 15 years old), 1 teaspoonful. To be taken three times daily 30 minutes before meals.

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New Members

T. J. Bryant, M.D., 4949 Rockhill Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Bryant is a native of Wellston, Oklahoma, received his preliminary education at Arkansas AM&N College and his M.D. degree at the University of Kansas in 1963. He specializes in internal medicine.

Mauro J. Carranza, M.D., 3933 S. Broadway, St. Louis, has become a member of St. Louis Medical Society. Dr. Carranza is a native of Pangasinan, Philippines, received his preliminary education at Santo Tomas University and his M.D. degree at Santo Tomas University in 1953. He specializes in internal medicine.

Edward Cotlier, M.D., 660 S. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Cotlier is a native of Rosario, Argentina, received his preliminary education at the Colegio Nacional and his M.D. degree at the University of Litoral in 1959. He specializes in ophthalmology.

Norma Dunning Farmer, M.D., 7 Short St., Farmington, has become a member of Mineral Area County Medical Society. Dr. Farmer is a native of Thornton, Ohio, received her preliminary education at Western College and her M.D. degree at Women's Medical College in 1926. She specializes in surgery.

Gary R. Fogg, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Fogg is a native of Pocatello, Idaho, received his preliminary education at the University of Utah and his M.D. degree at the University of Utah in 1963. He specializes in ophthalmology.

Alex H. Kaplan, M.D., 4524 Forest Park Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Kaplan is a native of Hull, England, received his preliminary education at the College of the City of New York and his M.D. degree at St. Louis University in 1936. He specializes in psychiatry.

Kenneth M. Kays, M.D., 111 N. Meremec, St. James, has become a member of Mid-Missouri County Medical Society. Dr. Kays is a native of Fortuna, received his preliminary education at Central Methodist College and his M.D. degree at the University of Missouri in 1962. He is in general practice.

William A. Kelly, M.D., 1221 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Kelly is a native of Ireland, received his preliminary education at St. Ignatius College and his M.D. degree at the National University of Ireland in 1960. He specializes in psychiatry.

Carleton J. Lindgren, M.D., 1200 W. Cedar, Cherokee, Iowa, has become a member of Jackson County Medical Society. Dr. Lindgren is a native of Forest City, Iowa, received his preliminary education at Iowa State University and his M.D. degree at the University of Maryland in 1963. He specializes in psychiatry.

Antonio Quito Manansala, M.D., 110 Horseshoe Dr., St. Louis, has become a member of St. Louis Medical Society. Dr. Manansala is a native of Manila, Philippines, received his preliminary education at Santo Tomas University and Northwestern Colleges in the Philippines and his M.D. degree at Manila Central University College of Medicine in 1956. He is in general practice.

Eugene N. Mitchell, M.D., Homer Phillips Hospital, St. Louis, has become a member of St. Louis Medical Society. Dr. Mitchell is a native of St. Louis, received his preliminary education at DePauw University and his M.D. degree at the University of Missouri in 1960. He specializes in surgery.

Thomas R. Moon, Jr., M.D., 100 N. Euclid, St. Louis, has become a member of St. Louis County Medical Society. Dr. Moon is a native of South Bend, Indiana, received his preliminary education at DePaw University and his M.D. degree at Washington University in 1959. He specializes in neurosurgery.

Gerhard H. Muelheims, M.D., 1515 Lafayette, St. Louis, has become a member of St. Louis Medical Society. Dr. Gerhard is a native of Wickede-Ruhr, Germany, received his preliminary education at Neheim-Huston Gymnasium and St. Mary's Gymnasium and his M.D. degree at the University of Heidelberg in 1951. He specializes in internal medicine.

Richard T. O'Kell, M.D., 1710 Independence Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. O'Kell is a native of Kansas City, received his preliminary education at Central Missouri State Teachers College and his M.D. degree at the University of Tennessee in 1961. He specializes in pathology.

George S. Parlato, M.D., 1342 Glenstone, Springfield, has become a member of Greene County Medical Society. Dr. Parlato is a native of Buffalo, New York, received his preliminary education at Canisius College and his M.D. degree at Marquette University in 1959. He specializes in psychiatry.

M. Besso Pianetto, M.D., Robert Koch Hospital, Koch, has become a member of St. Louis Medical Society. Dr. Pianetto is a native of Santiago, Argentine, received his preliminary education in Argentine and his M.D. degree at the Universidad Nacional del Litoral in 1937. He specializes in chest diseases.

Rosendo A. Reyes, M.D., 1941 Alert Drive, St. Louis, has become a member of St. Louis Medical Society. Dr. Reyes is a native of Manila, Philippines, received his preliminary education at Santo Tomas University and his M.D. degree at the Manila Central University in 1953. He specializes in obstetrics and gynecology.

Thomas J. Ryan, M.D., 213 Jackson St., Jefferson City, has become a member of Cole County Medical Society. Dr. Ryan is a native of New York City, received his preliminary education at the University College of New York and his M.D. degree at New York Medical College in 1956. He specializes in orthopedic surgery.

Joel Mark Spiro, M.D., Barnes Hospital Plaza, has become a member of St. Louis Medical Society. Dr. Spiro is a native of Brooklyn, New York, received his preliminary education at Hofstra College and his M.D. degree at St. Louis University in 1964. He specializes in dermatology.

In Memoriam

Brooks, Arthur C., M.D., 60 Kingsbury Place, St. Louis, a graduate of Washington University, 1919; member of St. Louis Medical Society; aged 70; died February 16, 1967.

Burney, Wallace S., M.D., Miller, a graduate of Barnes Medical College, 1903; member of Ozarks Medical Society; aged 88; died February 25, 1967.

Mairs, Edgar J., M.D., Trenton, a graduate of Washington University, 1903; member of Grand River Medical Society; aged 84; died March 12, 1967.

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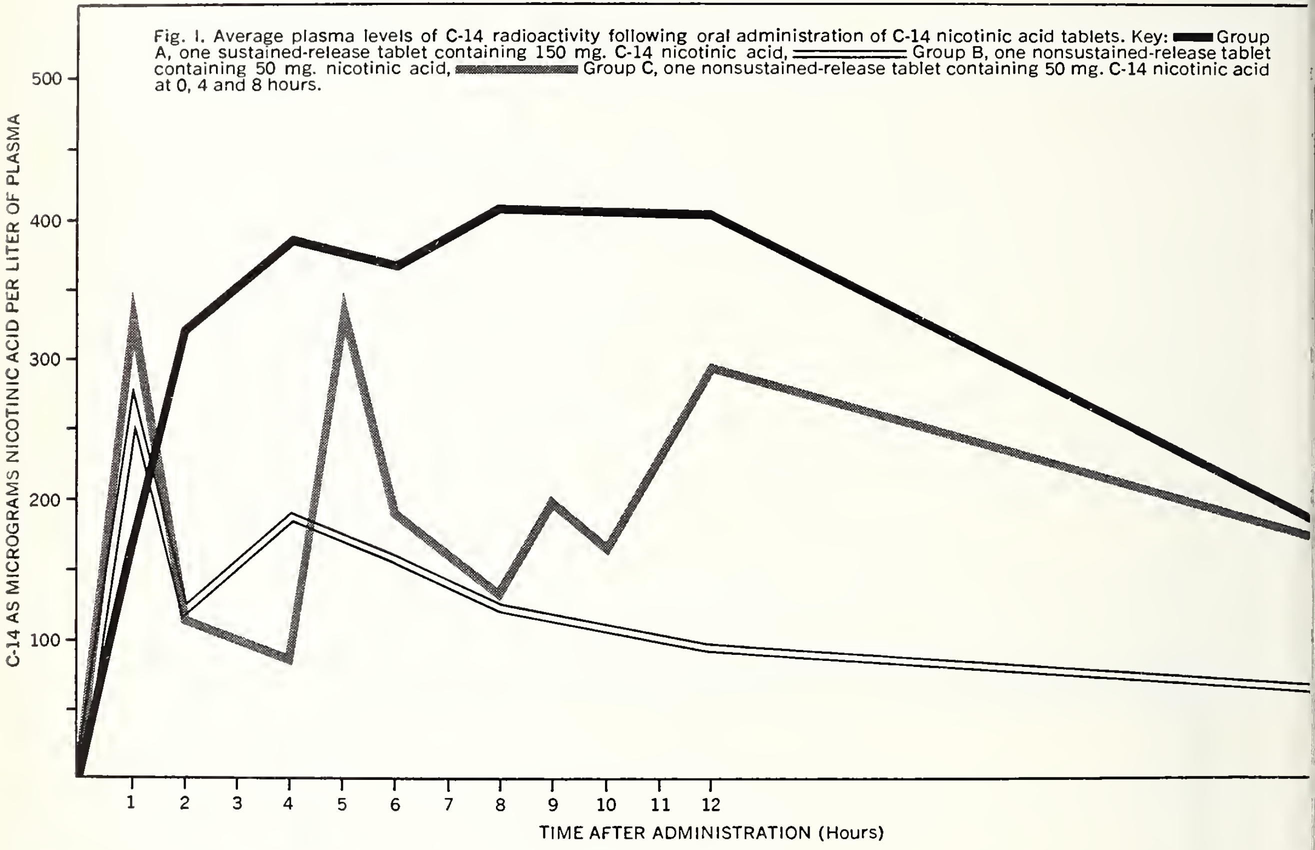

Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▬ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

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Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

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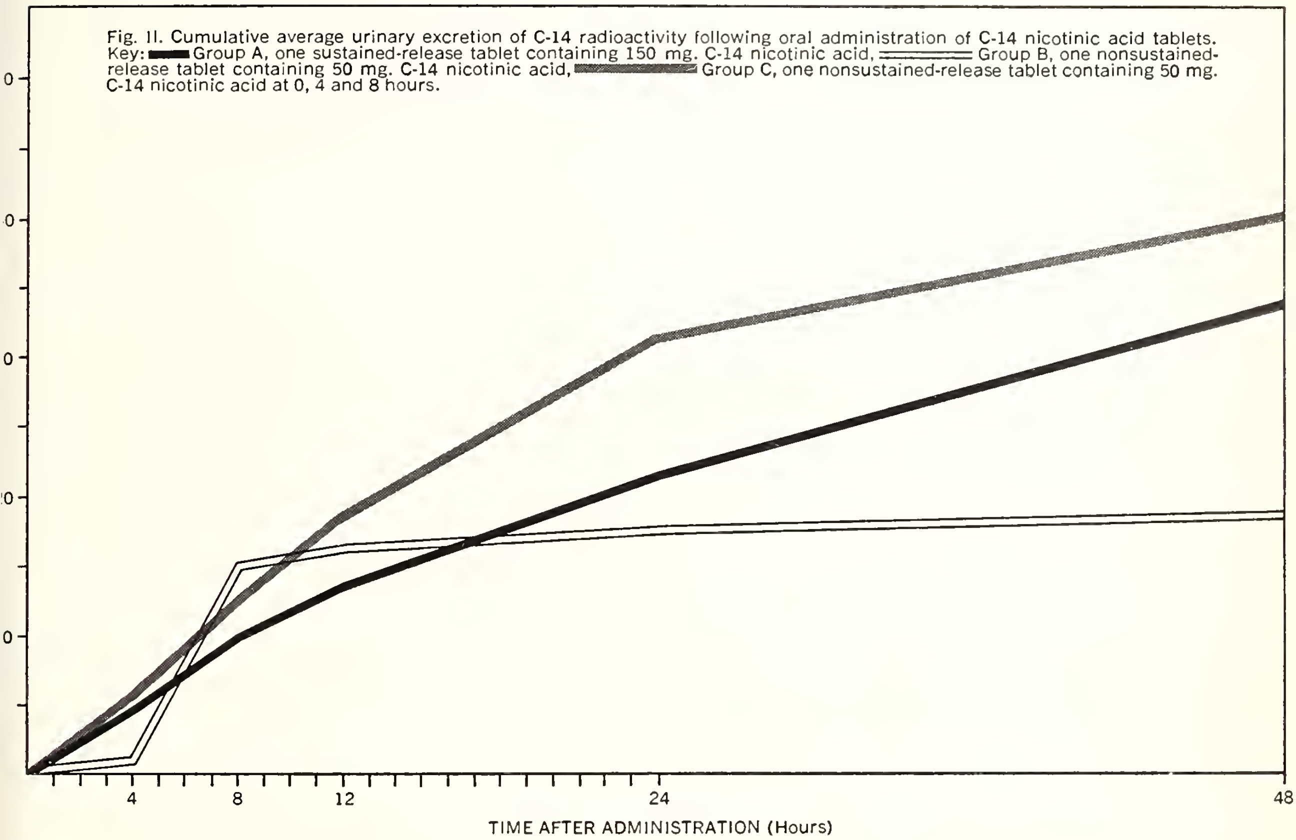

Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

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cautions: Exercise caution when treating patients h a low convulsive threshold.

Side Effects: Side effects are rarely encountered, however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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COMMENT . . .

Our Readers Write

The Physician's Responsibility to The Head Start Program

As a medical consultant for the Office of Economic Opportunity for Region VI, which includes Missouri, I have visited communities and areas in Missouri, Colorado and Iowa. In Missouri, I have been involved with essentially all areas of the state except St. Louis and Kansas City.

Dr. Julius Richmond, widely known pediatrician and Director of Head Start, has said, "I have viewed my appointment as director of this national program for young children, not as a matter of personal recognition, but rather as a recognition of the leadership role assigned to pediatrics." The Academy of Pediatrics *Newsletter* has repeatedly urged all pediatricians to participate in Head Start.

In the 13 visits I have made, representing at least 50 communities, nearly all in Missouri, I have not found a single pediatrician leading a Head Start program. In only one area was a pediatrician involved, and this was at my suggestion. In view of the scarcity of pediatricians in the rural midwest, it is not surprising to find minimal pediatric involvement. In all of these communities, however, general physicians, medical and osteopathic, also are not directing any programs. Physicians must in some way be involved in each Head Start program. In Missouri, they are almost always osteopathic physicians. This would indicate, in spite of the fact that there are fewer D.O.'s, that something is amiss.

It may be that physicians have not been informed precisely of the medical goals set forth by the originators of Head Start. The diagnosis of hitherto undetected or ignored illness, directing appropriate care and assuring proper immunization are very important objectives, and generally, have been accomplished. There is much more. The family should be given a concept of preventive medical attention, and they should be taught the importance of examinations at regular intervals. Parents must be educated in Health Services. Many children will require attention for acute medical problems during the Head Start period. All of this requires coopera-

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Before prescribing, please consult complete product information, a summary of which follows:

Contraindications: Infants, patients with history of convulsive disorders, glaucoma or known hypersensitivity to drug.

Warning: Not of value in the treatment of psychotic patients, and should not be employed in lieu of appropriate treatment.

Precautions: Limit dosage to smallest effective amount in elderly or debilitated patients (not more than 1 mg, one or two times daily initially) to preclude ataxia or oversedation, increasing gradually as needed or tolerated. As is true of all CNS-acting drugs, until correct maintenance dosage is established, advise patients against possibly hazardous procedures requiring complete mental alertness or physical coordination. Driving during therapy not recommended. In general, concurrent use with other psychotropic agents is not recommended. If such combination therapy is used, carefully consider individual pharmacologic effects—particularly with known compounds which may potentiate action of Valium (diazepam), such as phenothiazines, barbiturates, MAO inhibitors and other antidepressants. Advise patients against simultaneous ingestion of alcohol or other CNS depressants. Safe use in pregnancy not established. Employ usual precautions in treatment of anxiety states with evidence of impending depression; suicidal tendencies may be present and protective measures necessary. Observe usual precautions in impaired renal or hepatic function. Periodic blood counts and liver function tests advisable in long-term use. Cease therapy gradually.

Side Effects: Side effects (usually dose-related) are fatigue, drowsiness and ataxia. Also reported: mild nausea, dizziness, blurred vision, diplopia, headache, incontinence, slurred speech, tremor and skin rash; paradoxical reactions (excitement, depression, stimulation, sleep disturbances, acute hyperexcited states, hallucinations); changes in EEG patterns during and after drug treatment. Abrupt cessation after prolonged overdosage may produce withdrawal symptoms (convulsions, tremor, abdominal and muscle cramps, vomiting, sweating) similar to those seen with barbiturates, meprobamate and chlordiazepoxide HCl.

Dosage—*Adults:* Mild to moderate psychoneurotic reactions, 2 to 5 mg b.i.d. or t.i.d.; severe psychoneurotic reactions, 5 to 10 mg t.i.d. or q.i.d.; alcoholism, 10 mg t.i.d. or q.i.d. in first 24 hours, then 5 mg t.i.d. or q.i.d. as needed; muscle spasm with cerebral palsy or athetosis, 2 to 10 mg t.i.d. or q.i.d. *Geriatric patients:* 1 or 2 mg/day initially, increase gradually as needed and tolerated. (See Precautions)

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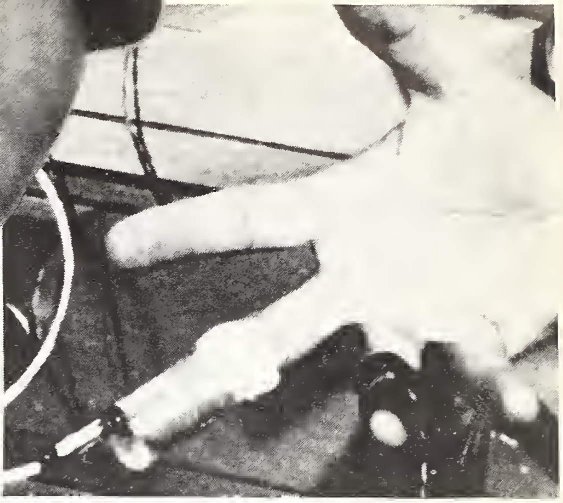

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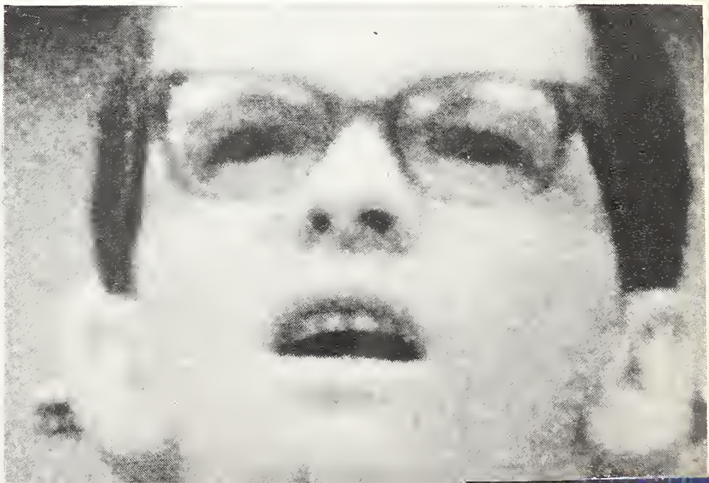

tion, community spirit and leadership of the health professional.

I have asked many physicians why they have been reluctant to be involved. The usual answer is that they were not invited to the planning, but simply requested to "do a bunch of physicals," usually by a school official. The annoyance to this approach is appreciated. Now many physicians have been approached early, particularly since the summer of 1966. They presently reply with one of two answers: "I'm too busy" or "I want nothing more to do with government medicine."

The writer believes that the osteopathic physicians of this state are no less busy than we are. The writer also believes that in addition to the two well known certainties of death and taxes, a third must be added: Federal Health Legislation. I, too, wish that medical care for the poor could have been adequately provided in a different manner. A vehicle for providing has been given us, and there is evidence that Head Start may well contribute something to the interruption of the poverty cycle. But even if it does nothing more than slightly improve the health of a few poor children, it deserves the support of the medical profession.

G. VAN LEEUWEN, M.D.
Columbia

GP Spring Symposium

The St. Louis Academy of General Practice will present its eleventh anniversary Spring Symposium on Sunday, May 7, at the Chase-Park Plaza Hotel in St. Louis. Physicians throughout the state are invited to attend and bring their wives. Special entertainment has been planned for the ladies during the scientific sessions and they are invited to join the doctors for luncheon and a social hour following the afternoon program.

The symposium this year will feature "What's New in Medicine." With this theme in mind, outstanding speakers will discuss medicine and psychiatry, medical management of hypertension, current concepts of hiatus hernia, diagnosis and treatment of epilepsy and emphysema.

Luncheon speakers will be Dr. Vernon E. Wilson, Executive Director for Health Affairs, University of Missouri, and J. Roy McCarthy from KMOX Radio, St. Louis. Dr. Wilson's topic will be "The Family Practitioner of the Future" and Mr. McCarthy will discuss "Education in Radio."

This outstanding program is acceptable for five accredited hours by the American Academy of General Practice. There will be a fee of $10 for the doctors and $8.00 for the ladies.

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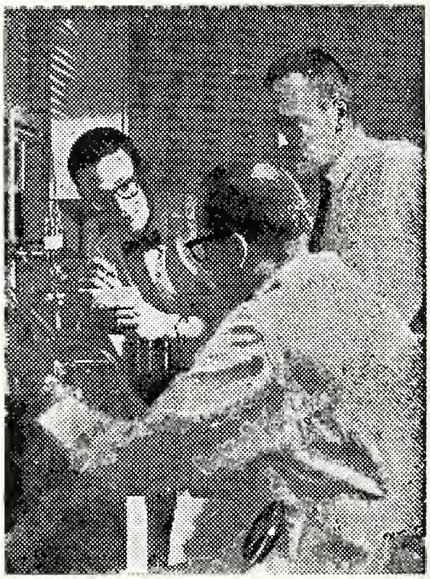

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WANTED—Young general practitioner for associate or partner immediately. Need help in very busy practice in Jefferson City, Mo., 30 miles from University of Missouri Medical Center and 40 miles from Lake of the Ozarks. All advantages of a town of 25,000: symphony orchestra, good schools (public and private), parks, four-year University, fishing and hunting nearby. Financial arrangements extremely flexible. Grossing $60,000 plus after one year practice. Am 30 years old, family man, member of AAGP and AOA, pilot and avid hunter and fisherman. Contact Box 335, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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IN THE LEGISLATURE

There is still the distinct possibility that Missourians will see enactment of a formal Title XIX program before the 74th General Assembly concludes its current session. Gov. Warren E. Hearnes recommended to the Assembly early in the session that Missouri adopt a cautious approach to Title XIX. In accord with that recommendation, four Senate Bills were introduced. These would expand existing medical-welfare programs, but would do so in a manner which would be in accord with Title XIX guidelines. In effect, the action would constitute a big step toward Title XIX without actually putting that label on it.

At the same time, it became known that the Governor would give serious consideration to true Title XIX implementation if, later in the session, it appeared that such a move would be fiscally, legislatively and politically feasible. To prepare for that possibility, "back up" bills providing for a formal Title XIX plan were drafted, submitted to the US Department of Health, Education and Welfare for approval and then introduced. At this writing, the chance for these measures to be dusted off and shoved into the main legislative channel appears to be growing.

The Missouri State Medical Association, while favoring eventual implementation of Title XIX in Missouri, has taken the position that the speed with which implementation is achieved is a decision that must be left to the Governor and the General Assembly.

272
274
Bill O'Malley

"Not in there, Blanch, that's an appendectomy!"

The physical therapist licensure Bill (HB 152) has moved smoothly through the House of Representatives under the skillful guidance of its chief sponsor, Representative Kenneth Rothman (D.-St. Louis County), and despite objections of the Medical Association. It is now being considered by the Senate Public Health and Welfare Committee.

HB 152 would establish a "State Committee for Registration for Physical Therapy" and would give this Committee authority to register, license and supervise all physical therapists in Missouri. The Medical Association is not opposed to the idea of licensing and regulating therapists, assuming that there is a demonstrated need for such action. The Medical Association is opposed to creation of an independent licensing agency. If an independent and autonomous "Committee" were established for the physical therapists, then by the same reasoning there should be "Committees" established to license and regulate psychologists, opticians, laboratory technicians, audiologists and all other paramedical practitioners.

The Medical Association, in conjunction with the Missouri Association of Osteopathic Physicians and Surgeons and the State Board of Registration for the Healing Arts, has drafted a substitute for HB 152 which includes all provisions which the physical therapists include in their own Bill, but which makes the Physical Therapy Committee a true "adjunct" to the State Board of Registration for the Healing Arts.

The substitute proposal for HB 152 provides a pattern which could be applied, if needed, to any other paramedical group. This would assure an orderly and efficient system for supervising the entire medical and health personnel field. It would avoid the creation of a series of small independent licensing and regulatory boards, each with their own housekeeping, investigatory and legal duties and expenses.

John I. Matthews, M.D., Chairman of the MSMA Committee on Legislative Matters, has called on local medical societies and individual physicians to contact their State Senators about HB 152. The medical profession questions the need for enactment of HB 152. If the legislature decides that there is a need for such legislation, however, then the profession urges that it be accomplished along lines of the *Substitute* HB 152. Senators should be urged to vote *against* the original version of HB 152.

House Bill No. 548 is in line for final action by the House of Representatives at this writing. This proposal would add chiropractic services to the medical benefits offered under Missouri's Workmen's Compensation program. An amendment has been added which would modify the proposal somewhat, permitting chiropractic services only "after initial diagnosis by a physician or surgeon." The amendment was offered in an effort to make the bill more palatable to the medical profession. The Council of your Association gave serious consideration to the amended bill and agreed that the profession cannot give even tacit endorsement to chiropractic. In the eyes of the medical profession, chiropractic is an unscientific cult.

The Legislative Committee urges individual physicians to contact their own representatives and urge them to vote *against* HB 548.

To contact a State Legislator—

Letters or telegrams should be addressed to:

Senator ....
(name)
or Representative ....
(name)
State Capitol Building
Jefferson City, Missouri 65101

Telephone calls should be placed on a person-to-person basis. Because of the uncertain schedule of legislative activity, your legislator might not be available at the time your call is placed. The Jefferson City telephone Area Code is 314, and Jefferson City INFORMATION will be able to furnish the office telephone numbers for all Senators and Representatives.

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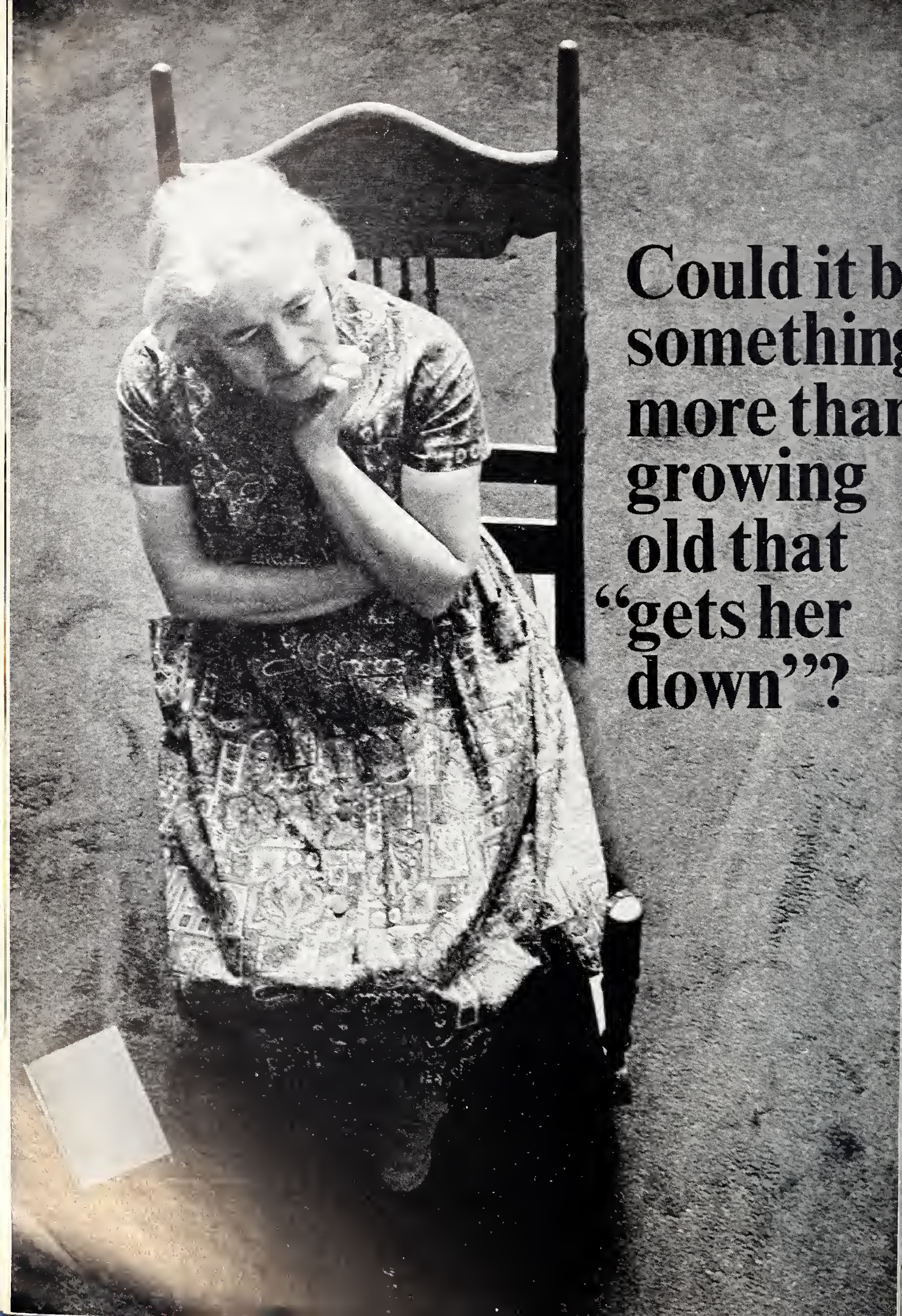
702 V.F.W. Building, 406 West 34th Street, Kansas City, Missouri 64111
Telephone: 816-561-1498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down”?

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*Multiple of adult Minimum Daily Requirement supplied.
†The need for these substances in human nutrition has not been established.

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Side effects: Reports of overstimulation have been rare. Patients who are known to be unduly sensitive to the effects of stimulant drugs should be observed carefully in the initial stages of treatment.

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Notes of interest from Here .... and There

At his 97th birthday anniversary party in Kansas City in April, **Dr. Rush E. Castelaw** was given a "toast to a long life" by **Dr. E. H. Kelly**, who is 98 years old. Dr. Castelaw was Superintendent of Kansas City General Hospital nearly 50 years ago. Dr. Kelly is the oldest member of the Jackson County Medical Society.

Establishment of the **Ralph A. Kinsella, Sr.** Center for Experimental Medicine as a memorial to the late Professor and Director Emeritus of the Department of Internal Medicine at St. Louis University School of Medicine has been announced. Kinsella Center, made possible by a gift from **Mr. and Mrs. John Simon**, will occupy the entire second floor of a new medical research building now under construction at Grand Boulevard and Vista Avenue. Dr. Kinsella, who died last Sept. 5, was on the medical school faculty for 42 years and directed the internal medicine department for 29 years.

Dr. Edward E. Nixon, Gallatin, has been elected Grand High Priest of the Grand Chapter of Royal Arch Masons in Missouri. He will head some 23,000 members.—**Dr. John M. Haight**, Raytown, was named "Family Practitioner of the Year" by the Kansas City Academy of General Practice. Dr. Haight, a past president of the Kansas City Academy, is now Vice-President of the Missouri Academy of General Practice.

In meetings held in conjunction with the MSMA Annual Session in St. Louis, **Dr. Retus W. Osborn III**, Farmington, took office as President of the Missouri Academy of Psychiatry and **Dr. George J. Lytton**, Kansas City, was named President-Elect; **Dr. John A. Growden**, Kansas City, was installed as President of the Missouri State Surgical Society and **Dr. Grafton A. Smith**, Columbia, was named President-Elect: **Dr. Berry Ivy**, Springfield, became the new president of the Missouri Ophthalmological Society and **Dr. Bill G. Prater**, Springfield, was named to the Society's Board of Directors.

Dr. Theodore M. King, Assistant Professor of Obstetrics-Gynecology and Physiology at the Missouri University School of Medicine, and **Dr. Leonard Jarett**, Instructor in Medicine at the Washington University School of Medicine, have been named Markle Scholars, one of the highest honors which can be bestowed upon young physicians in academic medicine. Twenty-five young scientists, all faculty members of medical schools in the United States and Canada, are elected annually for this recognition. The title carries with it an award of $30,000 which is distributed over a five-year period to aid in the development of the recipient's academic and research interests.

Physicians interested in Kansas City General Hospital and Medical Center are forming an association and will publish a bi-monthly scientific and news bulletin which will be sent to other interested physicians. For additional information, write to **Dr. Russell Jones**, Kansas City General Hospital, 24th and Cherry, Kansas City, Mo. 64108. Dr. Jones, Staff Pathologist, will be editor of the publication.

Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

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Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

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For initiation of therapy: Cream 0.025%, 5 and 15 Gm. tubes, 425 Gm. jars; *for emollient effect:* Ointment 0.025%, 15 Gm. tubes; *for maintenance therapy:* Cream 0.01%, 15 and 45 Gm. tubes, 120 Gm. jars; *for intertriginous or hairy sites:* Solution 0.01%, 20 cc. and 60 cc. plastic squeeze bottles; *for infected inflammatory dermatoses:* Neo-Synalar® Cream (0.025% fluocinolone acetonide, neomycin sulfate, equivalent to 0.35% neomycin base), 5 and 15 Gm. tubes. Contraindications: Tuberculous, fungal, and most viral lesions of the skin, (including herpes simplex, vaccinia, and varicella). Not for ophthalmic use. Contraindicated in individuals with a history of hypersensitivity to any of the components. Precautions: Synalar preparations are virtually nonsensitizing and nonirritating. However, the solution may produce burning or stinging when applied to denuded or fissured areas. In some patients with dry lesions, the solution may increase dryness, scaling or itching. While topical steroids have not been reported to have an adverse effect on pregnancy, the safety of their use on pregnant females has not absolutely been established. Therefore, they should not be used extensively on pregnant patients, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. Side Effects: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

References: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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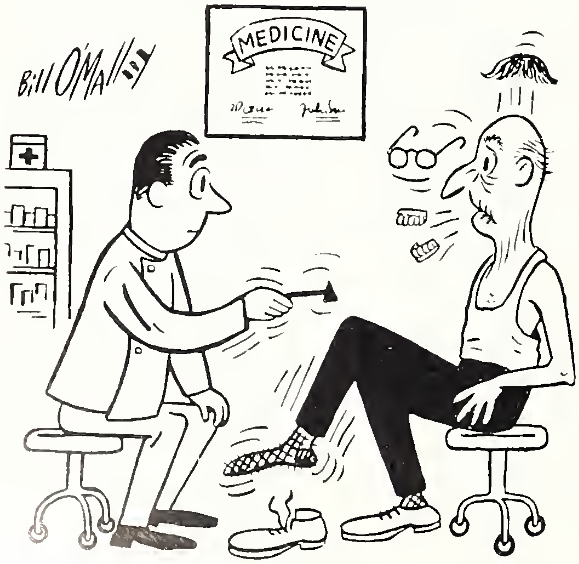
From the Medical Schools

MISSOURI UNIVERSITY

The University of Missouri's pioneering program of research in aging and chronic diseases has received strong support from the U. S. Public Health Service from a grant of $249,485 for the calendar year 1967. The project has received three-year approval with additional grants to be made in the next two years bringing the total to more than half a million dollars. Although a University-wide program, the funds have been credited to the School of Veterinary Medicine.

The program center is a 563-acre farm south of the Columbia campus. The development now taking shape there is unlike any other in the world. Separate, decentralized units will house many species of domestic and other animals for their entire life spans. The aging process of the animals and the chronic diseases they may incur will be studied by numerous investigators seeking more information on similar aging and debilitating illness in the human.

Two members of the Medical Center staff have been named to committees of the National Institute of General Medical Sciences. Dr. G. S. Lodwick, Professor and Chairman of Radiology, has been appointed to a three-year term on the Radiological Training Committee, after completing a one-year term. Dr. Fred V. Lucas, Professor and Chairman of Pathology, has been appointed to a three-year term on the Training Committee for Pathology. These committees serve in an advisory capacity. They review grant proposals, make site visits to requesting institutions concerning research activities and make recommendations concerning all.



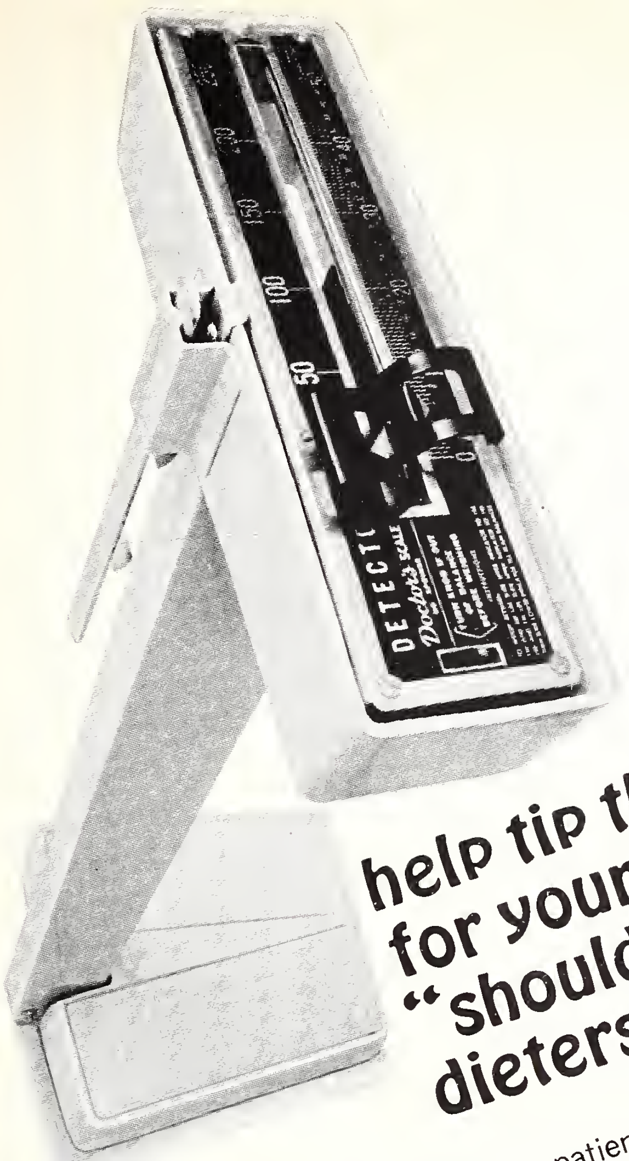
Dr. Herbert S. Goldberg has been appointed coordinator of an international subcommittee considering the taxonomy of gram-negative anaerobic bacteria, part of a committee organized by the International Microbiological Societies.

Dr. Frank E. South, Professor of Physiology and senior investigator at the Space Sciences Research Center, has been named to the Board of Editors of *Cryobiology*. His major research interest is in hibernators and their environment.

ST. LOUIS UNIVERSITY

The Institute for Molecular Virology of St. Louis University has been awarded a new $265,101 contract from the National Cancer Institute of the National Institutes of Health, Public Health Service, Department of Health, Education and Welfare, which will enable researchers to look for viral specific genetic material in human cancer.

Under the new contract, Dr. Maurice Green, director of the Institute, and his research associates will examine human cancers for the presence of viral specific RNA and measurements of DNA-RNA complex formation. They will attempt to establish human cancer cell cultures from human cancer tissue in order to have cells available for multiple analyses and for further studies of positive findings. They will develop experimental procedures employing competition between unlabeled RNA isolated from frozen cancer tissue and radioactive adenovirus specific RNA prepared from tumor and transformed cells, and extend these studies to other DNA and RNA viruses from which pure nucleic acid can be prepared. Their investigation will also include the study of the formation and properties of the



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WASHINGTON UNIVERSITY

Dr. P. Roy Vagelos, Professor and Chairman of the Department of Biochemistry, is one of two scientists to receive a gold medal and share a $1,000 cash prize presented by the American Chemical Society for outstanding achievements in enzyme chemistry. The award is sponsored by Chas. Pfizer & Co., Inc.

Dr. Vagelos was chosen for his pioneering work in determining the structure and function of the enzymes which govern the synthesis of fatty acids in the body, a work which has absorbed the major part of his efforts for the past six years. He has been described as one of the country's outstanding young biochemists, consistently in the forefront of his field.

Dr. Richard W. Hudgens, Assistant Professor of Psychiatry, has been named Assistant Dean in charge of student curriculum at the School of Medicine. He will advise students in the adoption of new curriculum which goes into effect for freshman and sophomores in September. Last year, Dr. Hudgens was given the first Senior Award for Excellence in Teaching by the Class of 1966. He serves as treasurer of the Washington University Medical Alumni Association.

The School of Medicine has appointed James O. Hepner, Ph.D., as the first full-time director of the Department of Hospital Administration. For the past three years, Dr. Hepner has been Associate Director of The Jewish Hospital of St. Louis and has served part-time as an Assistant Professor in the Medical School program leading to a Master of Hospital Administration degree. In addition to the faculty appointment at the Medical School, Dr. Hepner is an Associate Professor at the University's School of Nursing, Research Associate at the University's Social Science Institute and Project Director of the Medical Care Research Center.

Jackson Johnson Regional Scholarships have been awarded to seven students who will begin their freshman year at the School of Medicine in September. Those awarded scholarships are: Richard L. Schreiner, Hammond, Ind., senior at St. Louis University; Thomas P. Wharton, Neenah, Wisc., senior at Yale University; Max D. Walker, Blackfoot, Idaho, senior at the University of Idaho; Richard A. Brown, Chicago, Ill., senior at Stanford University; Russell E. Eggebrecht, Staunton, Ill., senior at the University of Illinois; James W. Overstreet, Savannah, Ga., a junior at the University of the South; and Lucy E. Doyle, Houston, Texas, a senior at Rice University.

Continuing Education Coming Events

June 10-15	**American Society of Radiologic Technologists** 39th Annual Convention Chase-Park Plaza Hotel, St. Louis
June 12-16	**Neurologic and Sensory Diseases** (Two courses dealing with Speech, Hearing and Visual Disorders) Department of Post-Graduate Education Menorah Medical Center, Kansas City

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Forty-five physicians attended the Buchanan County Medical Society meeting on April 5 in St. Joseph. A steak dinner preceded the business meeting and program. Dr. Edward M. Stevens introduced the speaker, Dr. John M. Spratt, Jr., Chief of Staff at Ellis Fischel State Cancer Hospital in Columbia, who gave an excellent illustrated paper on "Cancer of the Colon." Dr. Spratt's appearance was sponsored by the Buchanan County Unit of the Missouri Division of the American Cancer Society as part of its professional education program during April, designated nationally as Cancer Control Month. Mrs. Spratt accompanied the Doctor and attended the program. Dr. Irwin I. Rosenthal, President, presided at the meeting and program.

Maxwell Day, M.D., *Secretary*

Grants totaling $30,000 were made to Missouri's three medical schools by the Education and Research Foundation of the American Medical Association recently at a luncheon in St. Louis. Dr. David N. Kerr, St. Louis, President-Elect of MSMA (left), presented the checks to Dr. John C. Herwig, Associate Dean, representing Washington University School of Medicine ($12,218); Dr. Robert H. Felix, Dean, St. Louis University School of Medicine ($14,075); and Dr. Jack M. Colwill, Assistant Dean, Missouri University School of Medicine ($4,586). The gifts were made from a total of $1,051,933 contributed to the Foundation in 1966 by doctors, their families and allied groups.

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And there's an added advantage: the usual dosage is just 1 tablet once or twice daily, often without need for supplementary therapy. (BUTISERPAZIDE provides not only hypotensive and diuretic action, but a mildly sedative effect as well.) Isn't this the way to take the suffering out of hypertension?

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BUTISOL® (butabarbital) 30 mg. (½ gr.)†;
Hydrochlorothiazide 25 mg. (⅜ gr.); Reserpine 0.1 mg.

in mild to moderate cases, often effective at half the usual thiazide or thiazide/reserpine dosage.

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Hydrochlorothiazide 50 mg. (¾ gr.); Reserpine 0.1 mg.

controls many moderate to severe cases without any need for ganglionic blockers, or other more potent agents; if such agents are needed, their dosage can be cut in half.

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*15 mg. of **Butisol** (butabarbital), plus the other ingredients, in outer layer; 15 mg. of **Butisol** (butabarbital) in a specially coated core for delayed action, to approximately equalize duration of action for all components.

Contraindicated in presence of renal impairment, peptic ulcer, ulcerative colitis, or mental depression, and in patients with porphyria or those sensitive to any component. **Warning:** Coated potassium tablets, sometimes administered in conjunction with antihypertensive therapy, may be associated with small bowel lesions which have led to obstruction hemorrhage, and perforation. Surgery has been required and deaths have occurred. Such tablets should be used only when indicated and when adequate dietary supplementation is not practical. They should be discontinued immediately if abdominal pain, distention, nausea, vomiting or gastrointestinal bleeding occur. **Precautions:** Exercise caution in hepatic disease, diabetes, surgery, coronary artery disease, epilepsy, E.S.T., and in patients receiving digitalis. **Side Effects:** Electrolyte imbalance, hyponatremia, hypochloremic alkalosis and/or hypokalemia, hyperuricemia and gout, bradycardia, drowsiness, skin rashes, hangover, systemic disturbances, weakness, leg cramps, diarrhea, epistaxis, dizziness, urticaria, dry itching skin, nausea, vomiting, palpitation, superficial skin bruises, headache, dehydration, paresthesias, photosensitivity, pancreatitis, jaundice, xanthopsia, thrombocytopenia, leukopenia, agranulocytosis, aplastic anemia, nasal congestion, hypotension, lassitude, loose stools, anorexia, bizarre dreams, peptic ulcer, ulcerative colitis, mental depression. (Ammonium chloride, which may be administered to reverse hypochloremic alkalosis, should not be given to patients with hepatic disease.) **Before prescribing or administering, see package insert.** †**Warning:** May be habit forming. **Usual Adult Dosage:** Butiserpazide®-25 or Butiserpazide®-50: 1 tablet daily or b.i.d. References: 1. Johnson, H. J., Jr.: Penna. M. J.: **67**:35, 1964. 2. Coodley, E. L.: Curr. Ther. Res. **4**:460, 1962.

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New Members

Richard V. Camp, Jr., M.D., 3320 N. 2nd St., Poplar Bluff, has become a member of Butler-Wayne-Ripley County Medical Society. Dr. Camp received his preliminary education at St. Louis University and Arkansas State University and his M.D. at the University of Arkansas in 1962. He is in general practice.

William A. Case, M.D., 3109 W. 72nd St., Prairie Village, Kansas, has become a member of Jackson County Medical Society. Dr. Case is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1961. He specializes in ophthalmology.

Howard Yates Dean, M.D., 57 Jadwin Dr., Fort Leonard Wood, has become a member of Mid-Missouri County Medical Society. Dr. Dean is a native of Richmond, Virginia, received his preliminary education at Virginia Military Institute and his M.D. degree at the Medical College of Virginia in 1962. He is in general practice.

James P. Felder, M.D., 3008 W. Adams, St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Felder is a native of Corpus Christi, Texas, received his preliminary education at Loyola University and his M.D. degree at St. Louis University in 1958. He specializes in surgery.

Wilber L. Murray, M.D., 11201 Colorado, Kansas City, has become a member of Jackson County Medical Society. Dr. Murray is a native of Wichita, Kansas, received his M.D. degree at the University of Kansas in 1961. He specializes in ophthalmology.

Irwin Schultz, M.D., 1515 Lafayette Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Schultz is a native of New York, New York, received his preliminary education in New York City and his M.D. degree at New York University in 1954. He specializes in internal medicine.

Earl W. Wade, M.D., Mt. Vernon, has become a member of Ozark Medical Society. Dr. Wade is a native of Rayland, Ohio, received his preliminary education in Smithfield, Ohio, and his M.D. degree at Ohio State University in 1945. He specializes in diseases of the chest.

Doctors, the Boy Scouts Need Your Help Now

With the opening of the Boy Scout camping season in Missouri this month, volunteer physicians are needed to help with the routine, simple physicals for boys entering the camps, as well as to serve as camp physicians for brief periods during the season.

Members of MSMA, especially those whose sons will attend a Scout Camp, are urged to donate a portion of their time and service to the boys. Also, this is an opportunity for physicians who are retired.

All who serve are assured of a rewarding experience.

If you can find time to serve on one or more Sundays or for a period of a week, please contact your local medical society or Boy Scout office.

Psychiatrists Gain Members at 2nd Annual Session

Thirty-four psychiatrists were accepted as new members of the Missouri Academy of Psychiatry at its 2nd annual meeting held in conjunction with the MSMA 109th Annual Session in St. Louis April 5-9. The increase raised the total membership to 74.

The Academy co-sponsored a panel discussion during the first MSMA morning session. The guest speaker on that program, Dr. Edwin Dunlop of Attleboro, Massachusetts, also was the featured speaker on the Academy dinner program.

The next meeting will be held on March 29, 1968, at the Hotel Muehlebach in Kansas City, during the MSMA 110th Annual Session.

All eligible Missouri psychiatrists are invited to apply for membership by writing to any of the following newly-elected officers:

President—Retus W. Osborn, State Hospital, Farmington.

President-Elect—George J. Lytton, 221 Plaza Times Bldg., Kansas City.

Secretary-Treasurer—James N. Haddock, 950 Francis Pl., Clayton.

Councilor (1968)—Philip J. Marco, University of Missouri Medical Center, Columbia.

Councilor (1969)—Charles B. Wilkinson, 2200 McCoy St., Kansas City.

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Cautions and side effects: Use with caution in patients w
known drug sensitivity. If a hypersensitivity reaction or sy
toms suggestive of liver dysfunction are observed, the d
should be stopped. Occasionally, drowsiness, dizziness, lig
headedness, malaise, overstimulation or gastrointestinal
turbances may be noted; rarely gastrointestinal bleedi
allergic skin rashes, petechiae, ecchymoses, angioneur
edema or anaphylactic reactions may have been drug ass
ated. While *Paraflex* (chlorzoxazone) has been suspected
being the cause of hepatic toxicity in approximately eight
patients, it was not possible to state that the dysfunction
or was not drug induced. ***Dosage:*** Two tablets q.i.d. ***Suppl***
Scored, light green tablets, imprinted "McNEIL"—bottles of

References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:
1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Bas
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Component Society Meeting Dates

Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

As increasingly large segments of the population come under government sponsored health care programs and as contacts between the medical profession and government increase accordingly, it behooves us, as physicians, to become more aware of and familiar with the many complicated facets of our professional relationship with government. Your State Medical Association has already initiated several projects designed to accomplish this purpose.

One of the most complex and controversial problems in the field of "third party" (government or private enterprise) relationship involves the formulation of guidelines which can be used by "third parties" in determining what the profession considers to be reasonable charges for given medical services. This problem has been assigned to the Committee on Medical Economics and the newly created Committee on Interspecialty Medicine.

As a first step, the two Committees are busy trying to develop a practical and accurate sounding board mechanism which will enable all segments of the profession to be heard while fee guidelines are being developed. As I told the 1967 session of the MSMA House of Delegates, I do not intend, as President of the Medical Association, to commit the Association to any arrangement with a governmental agency or private insurance carrier unless I am satisfied that every segment of the practicing profession in Missouri has been adequately represented in preliminary discussions and deliberations.

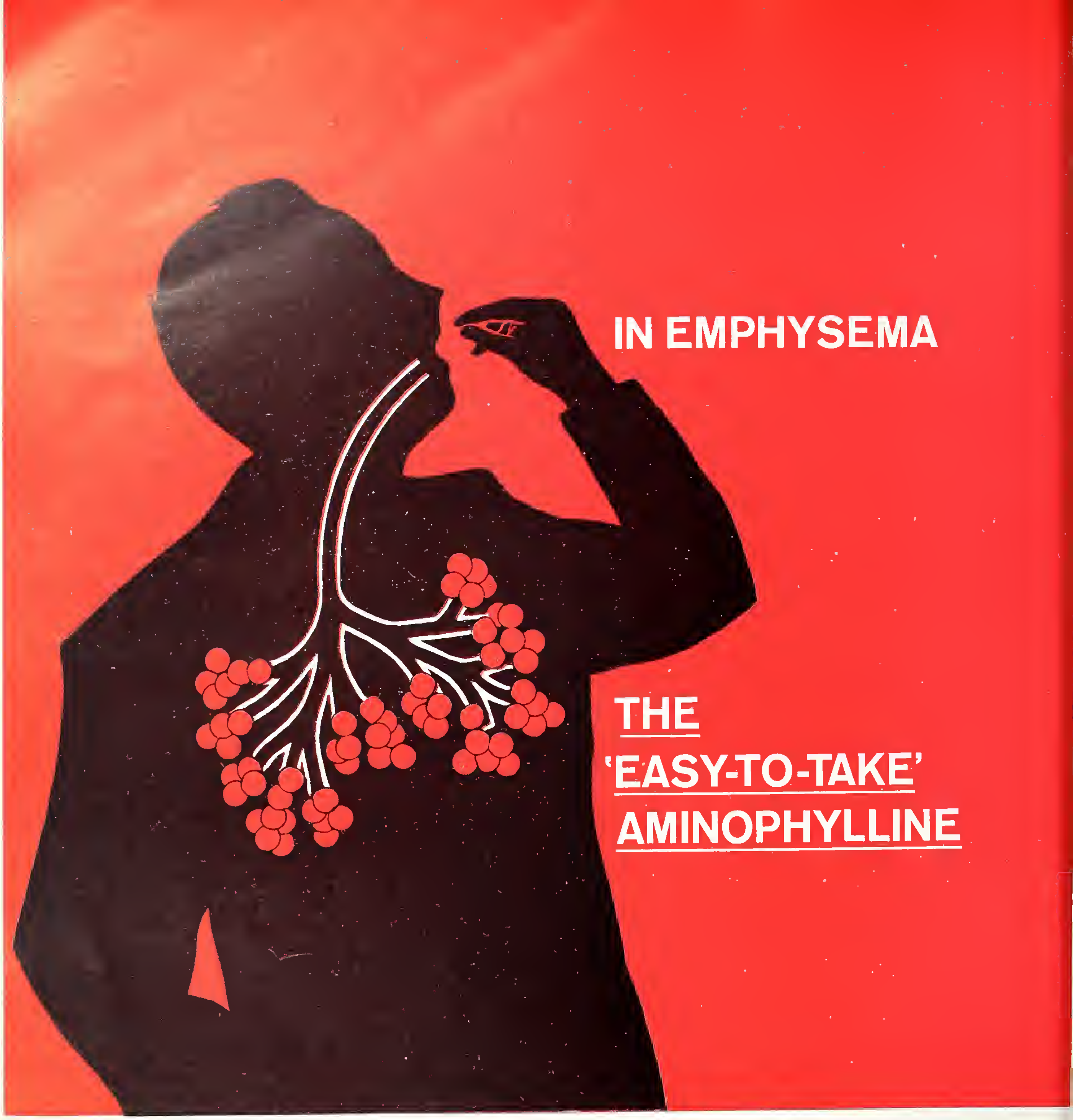
That brings us to you, Doctor! It is your responsibility and that of your specialty colleagues to make yourselves as knowledgeable as possible about "third party" problems and their possible solutions. In the area of professional fees this will mean becoming familiar with such terms as "relative value scale," "usual and customary charges," "absolute fee schedule" and "prevailing fee concept."

I am afraid that many physicians have only a vague idea about the mechanisms which these phrases represent. And yet, it appears that one of these mechanisms (or a combination) will have to be accepted and utilized by the profession in order to deal effectively with the ever increasing involvement of "third parties" in the field of health care. It is imperative that you inform yourself on these matters; consider objectively and unemotionally all facets of the problem; and then decide which solution will be most acceptable to you and your colleagues and in the best interest of your patients.

Finally, it will be your responsibility, Doctor, to transmit your views to your own representative on the Medical Economics or Interspecialty Medicine Committees. Unless this final step is taken, all of the preliminary effort will have been for naught.

The problem of establishing guidelines on the value of our professional services is real and complex. The solution will not be found easily, but it must be found . . . found by physicians who are dedicated to delivering quality medical care to those who need it.

Hector W. Benoit, Jr., M.D.



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Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

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Woman's Auxiliary

Mrs. John M. Williams

Communication is the lifeline of any organization. We would like to think that communication picked up considerably during the past year in the Missouri Auxiliary picture. Our Immediate Past President, Mrs. Wallace R. Stacey, visited many of the surrounding states during their Annual Conventions, all of the National Auxiliary meetings, 24 of the 28 organized Missouri county auxiliaries and numerous meetings of allied groups. As President-Elect, I accompanied her on many of these trips. Since my installation as President on April 8 in St. Louis, I already have visited the Iowa State Auxiliary Convention along with Mrs. Stacey and our new President-Elect, Mrs. E. F. Butler of St. Joseph. Mrs. Butler and I plan to attend the Illinois State Auxiliary Convention in Chicago in May.

My county auxiliary visits are filling the calendar rapidly. This adds up to an abundance of communication and interchange of valuable ideas essential to the progress and constructive changes necessary to a vital and growing group. This is the purest form of communication—personal contact. However, time and budget permit only so much of the purest essence. Efficient and planned communication to bring the message from the National level to the county level and back to the state officers is one of the most intriguing challenges of the presidential year. Reaching the greatest number of people with the best communicative system you can devise is a problem that keeps you thinking long into the night when the rest of your family is sleeping peacefully.

More and more, we are becoming aware of what is needed from us and how we can better perform as an Auxiliary to be of more value and service to our Medical Associations. We need communication with the community in which we live to discover in what areas we can be of real service as an Auxiliary and in relation to our County Medical Society, whose needs we should realize and coordinate with the community. We were greatly encouraged and honored to have our State Auxiliary Legislation Chairman attend the MSMA Legislation Committee luncheon during the recent Annual Meeting in St. Louis. Direct and specific suggestions have been given to us in regard to ways in which we can actively and constructively aid the MSMA legislation program. Our new Health Careers Chairman, Mrs. Roger Bumgarner of Columbia, is also our Representative on the MSMA Committee on Nursing and Paramedical Personnel. She reports a program developing to a point where it is hoped that all county auxiliaries will be asked to participate in helping place all qualifying students into some college or university. It is felt that this service could go a long way toward insuring against any young man or woman being discouraged from entering the nursing and paramedical fields due to difficulty in finding a college that has room for him or her in its student body. This is communication between the MSMA and its Auxiliary.

Through communication and interest, the auxiliary member who really begins to realize the depth and scope of service possible through her auxiliary can lead her group into a community role truly advancing medicine and public health. Joining with other groups to sponsor a program which will satisfy a community need can be one of our best public relations roles. The Missouri State Medical Association and its Auxiliary clearly offer the opportunity of dedication to high purpose and people. The doctor's wife who starts to work seriously in her auxiliary will inevitably reach a point where it becomes a part of her daily life. From these foundations, our Auxiliary leaders develop and become community leaders. Communication is possible from the largest group to the smallest and from the organization to the community if one inquires pointedly, speaks out sincerely and listens carefully.

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EDITORIALS

AMA PRESIDENT: A CHANGING CLIMATE

The "climate" of medical practice in this country is changing and physicians and their medical societies must change along with it.

That message was hammered home by AMA President Charles L. Hudson, M.D., in an address before the House of Delegates at your State Medical Society's annual convention.

Dr. Hudson told delegates government involvement in medicine is "less important in the form of Medicare as it is now than the form it may take in the future."

He suggested that medical societies must strive to "eliminate the areas where need for health care is apparent." Citing the changing "climate" of all segments of society, including medicine, Dr. Hudson said:

"As citizens we are interested in, and affected by, every factor which is contributing to the development of this new climate. As physicians, our concentration must be focussed on the effect the climatic changes have on the practice of medicine and the delivery of health care to the people of our country.

"As a part of this new climate, the practice of medicine is changing. Physicians and their professional societies must not only change along with it, but must guide and control the changes."

Dr. Hudson cited a plan by the Dallas (Texas) County Medical Society as the type he would like to see adopted by medical societies across the nation.

The Dallas Society, he explained, has established a Health Services Commission under its auspices. Of 40 members, ten will represent the county society, the others all segments of the community.

Together, they will work to improve health standards and anticipate present and future needs. Dr. Hudson said physicians and medical societies are accepting their responsibility and initiating plans for comprehensive community health services. But he warned:

"Where physicians and their societies do not accept leadership responsibility . . . they will find the planning and implementation will be carried on without them, and it most likely will be to their own disadvantage once they start living with programs designed without their participation."

Reprinted from THE NEWS of the Medical Society of the State of New York.

BURGLARS' WEEK

There shall be one week each year known as "BE KIND TO BURGLARS WEEK."

(You may pick your own week)

Editor's Note: With vacation time at hand, the following tongue-in-cheek editorial from a recent issue of the St. Louis County Medical Society Bulletin may provide a smile . . . and some valid ideas for actions to take prior to leaving on vacation.

Here is how you cooperate . . .

1) Leave one of the following notes on the front door:

John—10:00 AM Tuesday

I have gone shopping with Mary. The back door key is under the mat. If I am not home when you get here at 5:30 . . .

Department store delivery man—Thursday AM

We will be out of town until next Wednesday. Please leave package with neighbors across the street.

2) Don't tell any one you are going on a vacation so that when the moving van comes for all your furniture, your neighbors will believe you have been transferred to West Berlin.

3) Don't let one light burn even in the bedroom. It runs up the electric bill at the rate of ten cents for every forty hours, and the electric company is already rich enough.

4) Don't stop the delivery of milk, newspapers or mail. Get the place all cluttered up. It looks so much better then, after you get home and clean it up.

5) Leave a window unlocked and partially raised—it saves the burglar the time it takes to break it.

6) Don't let anyone fill the bird bath, re-arrange the lawn furniture, mow the grass or even walk across the yard while you are away. Any sign of life on your property might scare away a burglar while you are gone during "Be Kind to Burglars Week."

WE MAKE ASHTRAYS?

There is a radio commercial for Italian wine merchants in which the narrator describes the extraordinary efforts they undertake to please the American palate. He concludes with, "*And what do Americans know about Cinzano? That we make ashtrays? Oh, Americans, how could you?*"

The pathetic agony of the vintner's recitation is amusing, but evokes another thought: *What do Americans know about doctors who practice medicine?*" And, "*How could they?*"

In this decade, the medical profession generally, and physicians individually, are fair sport for any vindictive soul with paper and type. The more venomous the attack, the better it is received. Yet through the application of our own ethics, we effetively inhibit open exposition of the good works of almost all private practitioners.

Be it an extraordinary scientific breakthrough, a heroic effort to save a life or personal self-sacrifice for the benefit of the public or individual patient, it is seldom reported. When such news *is* released, we use language so oblique as to lead the public to believe that these were deeds performed by some homeless phantoms without name, face or form. Moreover, we intimate that it is not likely to happen again and apologize for mentioning it in the first place. The public finds it difficult to identify with these headless horsemen and often mistrusts them. In our zeal, the rigid application of our code seems to confirm the general suspicion of a "conspiracy of silence."

Our ethic was developed to protect the public from the unscrupulous, self-serving, advertising quack. He is nonetheless able to, and does, advertise.

It has been estimated variously that 3% or less of physicians are indeed unethical, inept or immoral in their practices. The transgressions of these few, however, frequently provide fodder for the public press. This then means that in Los Angeles approximately 11,350 honest, conscientious doctors, painted with the same brush in the public eye, are effectively denied any opportunity to place before the public their own best defense—*the conduct of their everyday lives!*

Might we not then permit—even encourage—some of our members to share with the public their scientific, humanitarian and social achievements. People might come to realize that Ben Casey and Doctor Kildare are not the only good, wise and unselfish doctors and that the medical climate in Los Angeles is at least at fine as that in Houston, Texas.

Obviously some discretion is necessary, but what might seem to be self-aggrandisement for a few individual physicians should be potent advertising for the profession as a whole. One *good* story about *a* doctor for every five general distortions in *Look*, *Life*, or *The Saturday Evening Post* could rekindle the wide public confidence physicians once enjoyed.

Many of our members have the impression that an undue advantage befalls the physician who happens to get his name in print or his face on television. As a spokesman for LACMA, I have had my share of exposure to the public view. I can tell you what it attracts. First, there are a number of souls with chronic or terminal disease for whom neither I nor anyone else has any cure or comfort. We are happy to try to help these patients, but little accrues to practice or prestige. Second, there are hosts of real estate, securities and insurance brokers who assume that so prominent a doctor must have a hoard of extra cash to share with them. Next are the fanatics and social perverts. They call to advise you about the heritage of the President of the United States, the Pope in Rome and the Grand Llama of Tibet, *or* to warn you that they will call down the wrath of Voodoo gods upon you and your family. Some even threaten assassination. Lastly, once every ten years one may acquire a treatable patient. The advantages of public display are vastly exaggerated.

Nor need we fear the self-seeking individual planting stories for himself. The press is considerably more sophisticated than to permit itself to be so badly used. If, at present, they "buy" such stories it may be because no others are available to them.

Since assuming office, the foremost question asked of me has been, "*What are we doing to improve the public 'image' of our profession?*" I believe we can put the story of the *real* doctors before the public without sacrificing any of the intent of our present code. We will examine our Public Relations program in this context. Who knows? Maybe we do make ashtrays!

JOSEPH F. BOYLE, M.D.

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COMMENT . . .

Our Readers Write

The Decision to Kill . . . Who Wants It?

Dear Doctor Finnegan:

On Oct. 21, 1966, an unsigned editorial appeared in the *St. Louis County Medical Society Bulletin* deploring the fact that the decision to perform an abortion today is "lodged in the law" and asserting that such a decision should be in medical hands. It further stated that the result of this decision can have a tremendous effect on the physical and psychological well-being of the pregnant woman involved. The latter statement is obviously true; the former is open to question. Is it not a legitimate and traditional function of law to protect human life? The decision (to abort), one might add, also has a tremendous effect on the well-being of the fetus: it destroys it.

I am well aware of the widespread professional sentiment for liberalization of abortion laws and even more aware that doctors favoring this are highly ethical humanitarians. They feel that present laws are unscientific, archaic and in need of change. Most of the proponents of change are honestly convinced of the need for inducing abortion after rape or incest (although proven cases of either are exceedingly rare) and for conditions threatening the mental or physical welfare of the mother or the fetus. Within the proponent group, however, is a well-organized, vocal minority which hopes that the new laws will be loose enough to permit the use of abortion as a form of population control. Little is said about this because these astute extremists realize that the best way to convince a majority of the American people that the law has to be changed is by emphasizing the need for abortion in cases associated with rape, incest, possible fetal abnormality or danger to maternal health.

Why do ethical physicians, who dedicate their lives to the preservation of life and health, favor the destruction of intrauterine life? Simply because they do not believe that the zygote, the embryo or the fetus represents a human life. These structures are, they believe, just "blueprints,"[1] amorphous globs of DNA, which, if destroyed, represent no real loss. To me the metaphor seems poor, since no "blueprint" left alone in its natural habitat develops into a building or machine, much less a living, breathing organism. On the other hand, the human fetus has never been known to develop into anything but a human being, albeit occasionally an imperfect one. Even if one believes that very early a human life is not destroyed, the beginnings, at least, of a human life are destroyed. To kill a human fetus, therefore, is quite a different thing from killing a mere animal.[2]

Doctors who favor liberalization have strong convictions about the life and health of the mother, but hold various views of when human life begins in utero. Some have "no fixed notion"; others say it is after "quickening"; and still others only after the birth of the major portion of the fetus. Is it logical to hold that one day a living fetus is just a blueprint and the next a full-fledged American citizen protected by the Bill of Rights?

The unsigned editorial on abortion states that "it is believed" that 40,000 women in Italy die annually due to illegal abortion. This figure is presented by the writer as fact, yet it is little more then a wild guess.[3] Many unwary readers will accept this as a fact, however, quote it to others and draw the conclusion that legalized abortion will lead to the saving of many women's lives. This is a stratagem used to convince people that the legalization of abortion will bring a bounty in maternal health and social justice. On the contrary, legal abortion has neither significantly reduced the number of illegal abortions, nor has it proved to be a panacea for the social ills in the countries where it is practiced.

Under proposed laws,[4] abortion would be justified for first-trimester rubella yet, since only one of five fetuses is affected, four of each five would be aborted needlessly. In 17 years of delivering babies, I have delivered only one with anomally (cataracts) due to first trimester rubella. Also, in an unmarried girl with severe anxiety, induced abortion would be legal. However, which unmarried pregnant girl is not severely anxious and where do we draw the line under pressure from distraught parents?

To me, even the eagerness to destroy a fetus which might be imperfect is a little hard to understand. Today, most people with severe congenital defects such as blindness, deafness, congenital heart disease and even mental retardation, live happy and productive lives. If each of us were confronted with the necessity to be physically perfect or be dead, few of us would stand. Another problem is the temptation to extend the coverage beyond the imperfect uterine "burden to the state" to those who are "enemies of the state." It should be kept in mind that of all the physicians convicted of atrocities at the Nuremberg trials, only four were psychiatrically abnormal. Most were physicians in good standing who yielded to the pressures of their society because this was the expedient thing to do.

The point is made in the editorial that the decision to abort is not theological or political, but the point is ignored that there are sound legal and scientific arguments against liberalization of existing abortion laws:

A. *Legally*, the fetus in utero *is* a human life, traditionally protected by several statutes. Examples: in addition to the present abortion laws are those protecting the inheritance rights of the unborn child,[5] those prohibiting capital punishment of a pregnant woman prior to delivery and recent court decisions providing redress to parents of unborn children killed or maimed before birth or intrapartum. In other words, whether some consider the fetus to be merely a blueprint or not, most existing laws protect it as a human being. If these laws are changed to permit the destruction of intrauterine life, except where it constitutes a truly grave danger to the life of the mother, what will remain in principle to prevent the eventual destruction of life in the infirm, crippled, feebleminded, aged or even, perhaps, politically unpopular ethnic groups?

B) *Scientifically*, many articles[6, 7] have appeared over the last 20 years to document the fact that therapeutic abortion yields no better results in most sick mothers than letting the pregnancy go to viability. This is true in heart disease, tuberculosis and most other maternal illnesses, including most forms of mental illness.

It becomes pertinent then for us, as doctors, to ask ourselves, *why* do we want a legal carte blanche to destroy the intrauterine fetus? For the ultimate form of birth control? To cure anxiety in women who can get pregnant but "simply can't have this baby"? To abort sick women who will fare as well without abortion? To offer fetuses death rather than the possibility of imperfection? To put the illegal abortionist out of business by becoming aseptic abortionists ourselves?

In view of the cheapening of human life which changing the law would cause, in view of predictable abuses and in view of the shrinking medical evidence that abortion cures the ills it was designed to relieve, could it be that the zeal of some of us for liberalization is misguided and ill-considered?

Laws which protect the rights of man (including life) were *not* passed in the Dark Ages by unenlightened bigots, as the previous editorial suggests. They were hammered out through the years in legislatures and courts, and they reflect the deep respect of the American people for human values. In this, the era of the fetologist, the cheapening of unborn life is a retrograde step. It is a part-surrender of a hard-won gain.

Matt H. Backer, Jr.*
St. Louis

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American Public Needs Retired M.D.'s, Nurses

The American Medical Association is making a special effort to encourage retired physicians and inactive nurses to return to part or full-time practice. In this period of medical manpower shortage, their skills and knowledge are badly needed by the American public. It is estimated that there are some 11-thousand physicians (about 2,600 of them women) who are not practicing for one reason or another.

The AMA Physicians' Placement Service is moving to develop a special program to inform these non-practicing doctors that they are needed and to inspire them to do something about the need. The Placement Service's primary activity lies in bringing the available physician and the existing need together.

Since it was established in 1948 (originally as the AMA Bureau of Information), the Placement Service has processed applications from 26,140 physicians who were seeking to be "placed." It also has registered 31,760 locations where physicians were being sought. The service of matching to two categories and finding the right doctor for the right location has been carried out without charge or obligation.

The Missouri State Medical Association has performed a similar service in recent years. The Association has paid special attention to the effort to encourage Missouri medical school graduates to remain in and practice in Missouri. Many outstate communities have a staffed medical clinic, thanks to this MSMA program. But the need for more manpower continues to grow.

Physicians and nurses are needed in many outstate communities in private practice situations, in developing community health and mental health centers and in school systems. Part-time opportunities exist with life insurance companies, V.A. hospitals, in emergency rooms of general hospitals and in various health agency programs.

The AMA is urging retired and/or inactive physicians and nurses to consider the possibility of returning to active service on a full or part-time basis. For further information, contact the Missouri State Medical Association or the AMA Physicians' Placement Service.

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Cerebral Arterial Thrombosis in Children

Case Report

DOES "STROKE" OCCUR IN CHILDHOOD? Is "pediatric stroke" the same as "adult stroke"? Present day concepts of "adult stroke" have enabled us to explain symptoms of cerebrovascular occlusion on a specific anatomical and hemodynamic basis. Doubtless, the advent of arteriography may be credited for this step forward. In contrast, pediatric literature is still replete with purely descriptive material and unfounded speculation which leaves us uncertain as to the incidence of the various causes for acute hemiplegia in childhood. Volumes have been written about the broad, and somewhat vague, subject of "cerebral palsy" which overlaps the area of "pediatric stroke." Many attempts have been made to categorize these syndromes on a purely clinical basis.

A review of the pertinent literature, prompted by the case herein reported, suggested to us that arteriography in the pediatric age group might clarify much of the confusion surrounding this subject. There are several causes of sudden hemiplegia in children, but arterial thrombosis appears to be much more common than previously suspected in view of recent antemortem documentation by arteriography. Three articles have made a significant contribution to the understanding of cerebral arterial thrombosis in children. Wisoff and Rothballer[1] in 1961 reviewed 27 cases of arteriographically proven thrombosis and added two cases of their own. Bickerstaff[2] in 1964 reported 15 cases which were studied arteriographically. In 1964, Shillito[3] reported 25 cases of cerebral arterial thrombosis occurring over a 14-year period at Boston Children's Hospital Medical Center.

CASE REPORT

A 6-year-old, previously healthy, adopted, right-handed white female was admitted to St. Luke's Hospital on June 22, 1965, with aphasia and right hemiparesis of approximately 24-hours duration.

About one year prior to admission, the patient had a sudden, five-minute episode of unconsciousness with no other associated symptoms. One month prior to admission, the patient's mother observed another spell of unconsciousness accompanied by cyanosis, lasting about ten minutes. There were no vomiting, incontinence, convulsion or drowsiness. On the day prior to admission, the patient was visiting her grandmother when she suddenly lost consciousness for a short, but undetermined, period of time. After regaining consciousness, she vomited, and then resumed her normal activity. Two to four hours later she experienced rhythmic jerks of her right leg for 45 minutes, without loss of consciousness. This was followed by paralysis of her right arm and leg and difficulty with her speech. A pruritic rash appeared on her chest, arms and thighs during this period of time. She had previously been a very healthy and active child. There was no history of trauma, infectious disease or exposure to toxins or insecticides.

The physical examination revealed a well-developed, slender, white female who was fully conscious, responsive, somewhat lethargic and apparent-

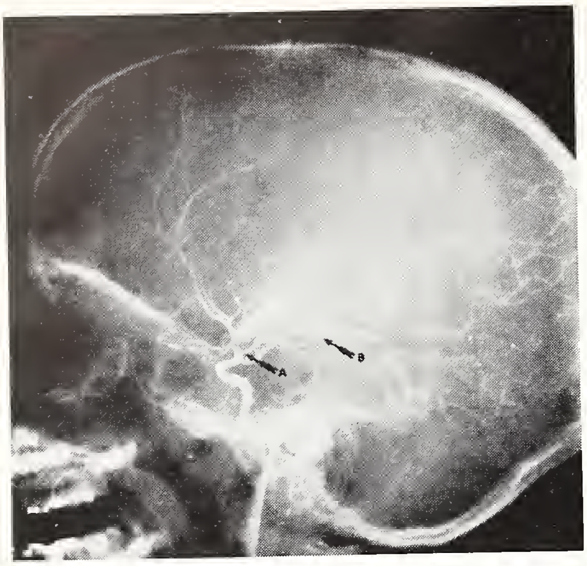

Fig. 1 (One-second film) The site of occlusion of the M_1 branch of the middle cerebral artery. Note complete absence of distal middle cerebral filling in the one-second film (Fig. 1) and lack of middle cerebral artery continuity in the two-second film (Fig. 3).

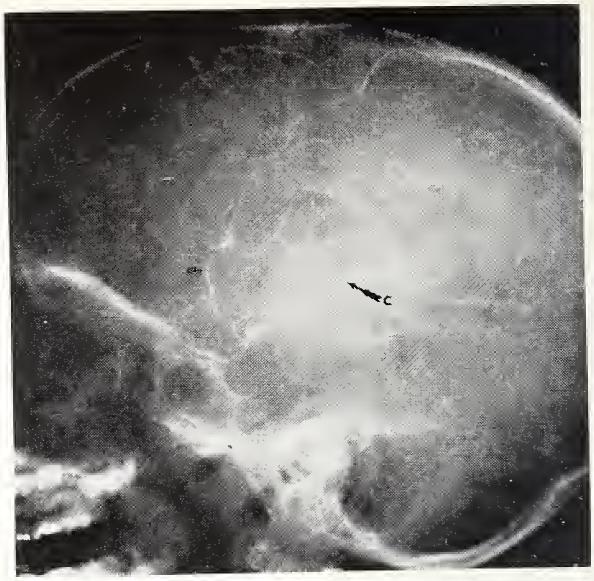

Fig. 2 (Two-second film) Markedly dilated striate arteries (Figs. 1 and 3).

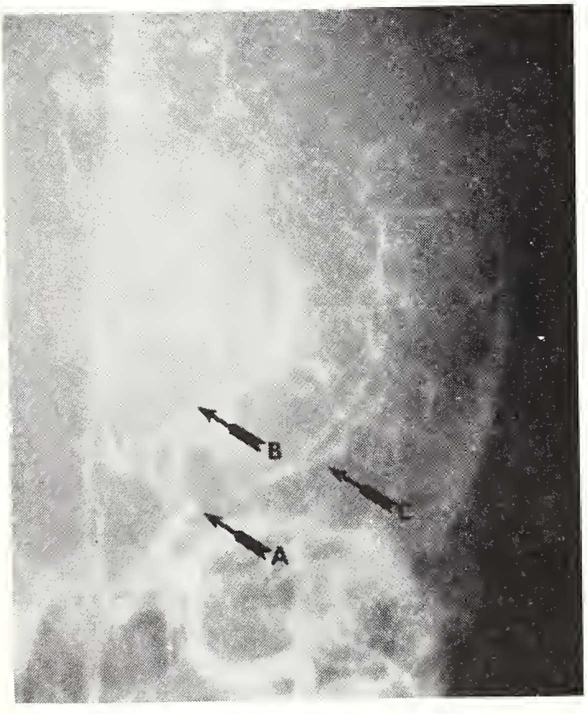

Fig. 3 (A-P two-second film) Distal branches of the middle cerebral artery visualized due to retrograde filling via dilated anterior cerebral and posterior cerebral arteries (Figs. 2 and 3).

ly able to say only her name and age. She was cooperative and able to obey commands. Her temperature was 100° F; blood pressure, 120/70; pulse, 76. Multiple scattered, pruritic, erythematous papules were present on her chest, arms and thighs. The eye examination was normal. She had moderate weakness of her right leg, total paralysis of her right arm and a right central facial paresis. All reflexes were slightly diminished and no pathologic reflexes were present. There was no pharyngitis, lymphadenopathy or splenomegaly.

Skull films were unremarkable. A percutaneous left carotid arteriogram done on the day following admission, 48 hours after the onset of hemiplegia, revealed complete occlusion of the M_1 portion of the left middle cerebral artery with extraordinary collateral circulation from the anterior cerebral, posterior cerebral and striate arteries, filling the middle cerebral arterial territory and even its distal trunk vessels (Figs. 1-3). There was no shift of the arterial vessels. A skin biopsy of the rash revealed minimal superficial hyperemia and some subepidermal edema.

Laboratory studies on June 22, 1965 revealed Hct-39, Hb-12.9, WBC-6800, 63 segs, 36 lymphs and 1 mono; 6/28/65 Hct-38, WBC-6600, 50 segs, 35 lymphs (30% atypical lymphs), 10 monos, 5 eos; 288 eos/cu mm; FBS-83 mg %, BUN 13 mg %, sed rate normal. LE cell prep was negative on two occasions.

The patient developed a very extensive morbilliform rash on the fifth hospital day. She continued to run a fever of about 100° F throughout the next week of hospitalization and regained some strength in her right leg. No other changes occurred.

She was given Dilantin (50 mg three times daily) immediately after admission. Six days later, after the appearance of the new skin rash, Dilantin was discontinued. At this time, the patient was started on Aristocort (5 mg four times daily). Gradual improvement of the rash followed.

On her first office visit, one month after the onset of symptoms, the patient showed a remarkable return of function with disappearance of the rash. However, moderate weakness of her right arm and incoordination of the fingers of her right hand were still present. Her speech gradually returned to nearly normal, although she was having some difficulty talking when she would become tired. Her gait was normal, but she was unable to perform activities requiring complex coordination, e.g., jump rope. Her reflexes were slightly more active on the right than the left, but there were no pyramidal tract signs. The facial nerve palsy had completely resolved.

Four-and-one-half months after the onset, the patient's speech was normal, but mild weakness and incoordination of her right hand remained.

Discussion

The discussion will be confined to those cases of painless, sudden hemiplegia which occurred in previously neurologically and cardiologically normal children. Approximately 72 cases[1-5] similar to ours have been described in the literature, all with arteriographically or pathologically proven cerebral arterial occlusion. Since the children were all healthy prior to the onset of hemiplegia, the etiology of the arterial occlusion is somewhat obscure.

In an effort to define the clinical syndrome of acute arterial thrombosis, we must first compare it to the clinical picture of acute hemiplegia of other etiologies. These syndromes have characteristic clinical symptoms and/or antecedent illness which distinguish them from the author's case and others like it. Cortical thrombophlebitis[2] has been documented as a cause. In this disease, the onset may be acute and pyrexial with paralysis on one side only, but it is more common for it to be of spreading character and to involve largely the lower limbs (when the sagittal sinus is involved) and the face the least in contrast to arterial thrombosis which, according to Bickerstaff, does not spread and involves predominately the upper limbs and face. Furthermore, there is not the consistency and predictability of clinical and radiographic picture in cortical thrombophlebitis as in arterial thrombosis. Historically, localized or unilateral encephalitis,[2] also called Marie Strumpell encephalitis, had been thought to be a cause of hemiplegia but at present there is no anatomical evidence to support this theory. In most cases, encephalitis produces a widespread neurological change and CSF abnormalities, and the patient rarely remains alert if the hemiplegia is severe. Arterial embolism is secondary to rheumatic heart disease, pulmonary sepsis and subacute bacterial endocarditis, and thrombosis in polyarteritis nodosa is well known.

Clinical Picture

The disease usually presents itself with a sudden loss of consciousness followed by hemiplegia, with or without dysphasia. Convulsions may initiate the syndrome and are more often seen in children than in adults. Fever and/or vomiting may also accompany the hemiplegia. In most cases, the hemiplegia affects chiefly the arm and the face with the leg always showing improvement first. There may be mild weakness of the affected limbs or contralateral headache hours or days before the fits or hemiplegia develop.

Wisoff and Rothballer[1] report that of 29 patients, an apoplectiform onset occurred in 15 patients and a "stuttering" (fluctuating and insidious onset of weakness and dysphasia preceding complete hemiplegia) onset in seven. Convulsions with facial or general weakness were the prominent initial symptom in six cases. There was a clear-cut left-sided and male preponderance, both unexplained.

Our patient had two episodes of unconsciousness preceding the hemiplegia. A localized seizure of the affected leg, lasting 45 minutes, occurred immediately before the onset of paralysis. A similar case is reported by Shillito.[3] Our patient showed steady improvement which may be explained by the extensive collaterals seen on the arteriogram (Figs. 1-3).

In many reported cases[2, 3] (18 out of 28 by Shillito), there is an antecedent history of mild ill health, i.e., evidence of recent infection of the ears, throat, nose or paranasal sinuses. Although our patient gave no history of antecedent illness, the presence of 30% atypical lymphocytes, low-grade fever and rash suggests infectious mononucleosis, which will be discussed later.

Arteriography

A *prompt* arteriogram will usually show an occlusion in a cervical and/or cerebral artery on the side opposite the symptoms. Bickerstaff[2] emphasized the importance of early arteriography because a large proportion of *late* arteriograms do not show occlusion. In these cases, occlusion might have been due to temporary arterial spasm or emboli which subsequently fragmented and passed on through the circulation, as is known to occur in adult strokes.

In Shillito's series of 25 cases,[3] the most common single site of occlusion was the trifurcation of the middle cerebral artery occurring in ten cases. Occlusion occurred in the carotid siphon in eight cases, in the cervical internal carotid in six cases and anterior cerebral in three cases. In one patient, occlusion was found in all three locations and in another both the middle cerebral and internal carotid showed narrowing. The latter two cases are probably examples of peripheral emboli that have arisen from thrombi secondary to arteritis of the carotid artery. In general, the symptoms seem to be more severe and permanent with occlusion above the clinoid portion of the arterial tree, probably because collateral circulation is absent at this level.

In the reported case, a complete occlusion was found at the M_1 portion of the middle cerebral artery. With the typical clinical and radiographical picture of thrombosis and the absence of evidence of an occlusion in the internal carotid, the stroke was most likely due to thrombosis in the middle cerebral artery.

INCIDENCE

As yet, no study has determined the frequency of arterial thrombosis as a cause of acute hemiplegia of childhood. However, it is becoming increasingly apparent with the use of arteriography that it is a common cause.

MORTALITY AND MORBIDITY

It is rather difficult to determine morbidity and mortality accurately since those cases which recover rapidly usually are not reported. Furthermore, there have been many cases reported which did not have adequate follow-up. Wisoff and Rothballer[1] reported a 25% mortality occurring in 29 cases reviewed from the literature. Of the survivors, 14% were not followed up, 40.9% had varying degrees of hemiparesis and/or seizures (17.2% hemiparesis alone, 20.7% both seizures and hemiparesis, and 3% seizures alone) and 24% were normal. Shillito[3] reports morbidity and mortality derived from a review of all "bloodless" cerebro-vascular accidents from 1948 to 1962 at Children's Hospital Medical Center. This report should include hospitalized cases of all degrees of severity and should, therefore, be representative of a given population. Out of 25 cases, 4% died, 16% were ultimately normal and 80% (28% mild, and 52% severe) showed mild to severe deficit. Statistics are similar in some aspects but the death rate is markedly lower in Shillito's report, as would be expected if the tendency to report single fatal cases is reflected in Wisoff and Rothballer's cumulative review.

ETIOLOGY AND PATHOGENESIS

The pathologic finding common to all is an alteration or destruction of the arterial wall which predisposes to thrombosis. Ford[6] describes autopsy findings of ulceration of the intima and lipoid deposits in the intimal connective tissue at the site of thrombus formation; other cerebral arteries showed identical changes without thrombi. This appears to be a generalized metabolic or gentic abnormality. Several authors[6–8] have reported necrosis of arterial walls in conjunction with severe acute pyrexial illness (scarlet fever, typhoid, diphtheria) which have produced thrombosis. These lesions were demonstrated at postmortem, but no arteriograms were done. Cerebral dissecting aneurysm has been shown in four reported cases[9] to be the cause of arterial thrombosis. Trauma to the internal carotid artery[10] in the tonsillar area or blows to the head and neck are proven causes of arterial thrombosis, presumably by causing periarterial inflammation. Our case differs from the above cases in history and/or age of the patients and is, therefore, probably not due to any of the above etiologies. In many cases, such as the two reported by Faris *et al*,[5] no satisfactory explanation can be found.

Recently, a large number of cases[2–4] have been reported in which the etiology appears to be an arteritis related, in most cases, to a pre-existing recent infection of the ears, throat, nose or paranasal sinuses. Shillito[3] reports that 18 out of 25 patients had a history of antecedent infection. The proximity of the carotid canal to the inner ear, eustachian tube and posterior pharynx make it possible for an infection to spread from these structures to arterial adventitia or periarterial lymphatics. Shillito has found definite evidence of arteritis both on a post-mortem specimen and in two cases of surgically removed thrombi. Arteritis may lead to compromised circulation as a result of spasm and/or thrombosis.

Bickerstaff[2] includes in his report a few cases of hemiplegia secondary to trauma to the carotid through the tonsillar fossa causing a localized arteritis. Because of the radiographic and clinical similarity of this traumatic syndrome to hemiplegia secondary to infection of the throat and cervical nodes, he postulates that the latter also is probably of inflammatory origin.

In the reported case, we suspect an arteritis with secondary thrombosis in the middle cerebral artery. Infection is an unlikely cause for the arteritis in view of the negative past history. As previously mentioned, infectious mononucleosis should be considered but is unlikely in the absence of detectable pharyngitis, lymphadenopathy or splenomegaly. A heterophile, serum and hepatic function studies were not done. The atypical lymphocytes, seen *only* on the sixth hospital day, might better be attributed to Dilantin hypersensitivity.

The patient's drug rash, in addition to her presenting rash, suggests a constitutional hypersensitivity which might explain the postulated arteritis. Sprofkin and Blakey[11] reported four cases of diffuse arteritis associated with sudden hemiplegia. Post-mortem studies revealed pathological changes compatible with disseminated lupus erythematosus, polyarteritis nodosa and scleroderma. In the light of this evidence, we entertain the possibility that this child's arteritis might be an early manifestation of a collagen disease. A biopsy of the skin wheal did not confirm our suspicions of a generalized arteritis. Furthermore, two negative LE preps make it unlikely that this patient has a collagen disease at this time.

We feel that this patient's history of prior spells of unconsciousness could be compatible with a chronic, smoldering arteritis which gave rise to recurrent spasm and resultant ischemia without infarction. This theory is substantiated by the large amount of collateral circulation seen in the area of the left middle cerebral artery. The final episode was probably caused by a complete thrombotic occlusion of the middle cerebral.

Treatment

As yet, no method of treatment has been proven to be effective. Anti-coagulants have been the most widely used,[1-3] but the number of cases has been too small to show any statistically significant beneficial effects. In no case should anticoagulants be employed before adequate arteriography, since tumors, intracranial hemorrhage and subdural hematomas can mimic cerebrovascular occlusion.

Surgery to remove extracranial carotid thrombi or emboli has been met with fair success in recent years. However, intracranial thrombectomy has not been effective in either children or adults. Out of nine reported cases,[3, 12, 13] only one has resulted in significant radiographic and clinical improvement. This treatment requires skilled use of microdissection instruments and may be successful with greater refinement in the future.

If done early enough, hypothermia and/or intravenous hypertonic urea may be instituted to prevent cellular edema.[2] However, it is likely that in many cases maximal damage is done very soon after onset of symptoms.

A report and analysis of a case of sudden hemiparesis and aphasia in a healthy 6-year-old girl. With the advent of arteriography, such cases are more frequently recognized as being due to cerebral arterial occlusion. The authors review 72 cases of arteriographically proved cerebral arterial thrombosis in an attempt to define the clinical picture, mortality, morbidity and etiology of this syndrome. They emphasize the importance of early arteriography in all cases of acute childhood hemiplegia as an aid in diagnosing appropriately and treating the thrombosis before irreversible damage occurs. A Neurosurgical Extern at St. Luke's Hospital at the time this paper was prepared, Doctor Jennings is now an Intern at Mary Fletcher Hospital, University of Vermont School of Medicine. Doctor Whittaker is Attending Neurosurgeon at St. Luke's Hospital.

We feel that it is important, in view of the child's propensity for seizures, to immediately begin anticonvulsant therapy to avert further ischemia secondary to a convulsion. Dilantin was used in our patient. As previously mentioned, approximately six days after beginning Dilantin, the patient developed a different rash. For this reason, the medication was discontinued with subsequent improvement of the rash. Dilantin has been reported to cause such a rash in approximately 2 to 5% of patients and more often in children.[14]

Corticosteroid (Aristocort) was administered to our patient to treat the suspected allergic vasculitis and drug reaction, as well as to curtail inflammatory tissue reaction in the brain.

Conclusion

The diagnostic and therapeutic value of arteriography outweighs the very low morbidity and mortality associated with the procedure. Shillito[3] states, "Neither arteriography itself nor the attendant general anesthesia, which is advisable in children, has produced any significant neurological or medical complications in these patients during the period covered by this report." This observation is confirmed by Poser and Taveras[15] after cerebral angiography on 99 children under the age of 13.

Till and Hoare[16] said, "The rarity of the diagnosis of carotid or cerebral artery occlusion is probably a measure of the rarity of investigation, not the disease." For this reason, we feel that cerebral arteriography should be performed in every case of childhood "stroke." Only with greater accuracy and promptness in diagnosing this condition can we hope to achieve any improvement in its treatment. Early and accurate diagnosis would make it possible, with anticoagulants, to curtail an embolic process at an early stage and allow us to administer intravenous hypertonic agents to avert destructive cerebral edema or locate a thrombosis in time for effective surgical removal. Certainly anticoagulant therapy should never be tried without arteriography to exclude hemorrhage or tumor. Furthermore, a more accurate prognosis for the patient may be made by knowing the extent of collateral circulation shown by arteriography.

Summary

A 6½-year-old, previously healthy, white female with the sudden onset of right hemiparesis and aphasia was proven by arteriography to have a thrombosis of the middle cerebral artery. Approximately 72 similar reported cases of cerebral arterial thrombosis in previously healthy children have been reviewed.

1. The clinical picture of cerebral arterial thrombosis is characterized by sudden painless, localized neurologic deficit with or without convulsions. Convulsions occur more often in children than adults.

2. Mortality figures vary from 4 to 25% with 40- to 80% of survivors having residual neurologic deficit.

3. Although many cases of arterial thrombosis are unexplained, there are several known etiologies, all having in common an alteration or destruction of the arterial wall. Arteritis following a mild upper respiratory infection was postulated by Shillito to be the inciting process in 18 out of 25 cases. In the absence of a definite history of infectious disease, we have postulated on arteritis of allergic origin to be the cause of thrombosis in the reported case.

4. The importance of early arteriography in *all* cases of acute hemiplegia in children is emphasized in order to diagnose appropriately and treat the thrombosis irreversible damage is done.

5. Various modes of treatment are discussed, none of which has, as yet, been proven to be effective. The use of anticonvulsants is felt to be important in children. Corticosteroids were used here to treat the suspected arteritis and inflammatory tissue reaction in the brain.

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Acute respiratory illnesses account for approximately one-third of the absences of children from school, if the situation in the Omaha, Nebraska, schools is typical of the country as a whole. Furthermore, weekly fluctuations in absences for all causes appear to be directly related to changes in the rate of absence associated with complaints of acute respiratory illness. These observations were made as the result of a survey of absences and their causes among 3,102 pupils attending classes from kindergarten through high school in three public schools in Omaha. The report was published in the April issue of the *American Review of Respiratory Disease* (Vol. 95, No. 4), journal of the American Thoracic Society, medical section of the National Tuberculosis Association.

JAMES N. HADDOCK, M.D., ***St. Louis***

Present Day Treatment of Depression

A Review of 100 Consecutive Private Patients

Mental depression in one form or another persists as a major form of suffering for much of humanity and as one of the most common functional disorders met by the physician in his everyday practice. Although statistics on the true incidence of such a common condition are hard to obtain, it seems likely that there has been no decrease in the occurrences of these disorders during the last half-century despite spectacular progress in preventive medicine, broad advances in mental health enlightenment and steady gains in most phases of contemporary society. Notwithstanding this failure in prevention, there has been real progress in the early recognition and treatment of these disorders. Some of the most dramatic recoveries to be seen in any of the functional disorders occur with prompt treatment of the depressions. The most recent advances have been in the field of psychopharmacology. The purpose of this study is to bring into perspective these advances in the treatment of depression as reflected in current psychiatric practice.

Although textbooks devote considerable attention to the different forms of depression, the importance of this detailed classification is not as essential in the practical management of the depressions as one might think. More important is the ability to recognize the basic signs and symptoms of depression and to be able to accurately distinguish these patients from those with other types of functional disorder. Despite doubts being cast on the value of specificity in the diagnosis of emotional and mental disorders, our broadening therapeutic armamentarium is making it increasingly important that the diagnosis of these conditions be accurate. This is particularly true with the depressive disorders. One of the most important differential diagnoses to be made by the physician is to separate the depressive from the non-depressive functional disorders.

Once the diagnosis of depression has been established, sound clinical management will depend to a considerable degree upon an appreciation of the natural course of these illnesses. This was emphasized by Muncie[1] when he pointed out that one of the most important features to bear in mind in the treatment of the depressions is their essential recoverability. Physicians of yesteryear, with few therapeutic tools at their disposal, were able to appreciate this to a greater degree than many present-day practitioners. However, today's physician, with both recoverability and therapeutic tools on his side, should be in a much better position to anticipate an optimistic outcome in the majority of his depressed patients.

HISTORICAL PERSPECTIVES

From the Hippocratic era until the 18th century, the treatment of melancholia took its cue from the prevalent views on the body fluids and their role in illness (Table 1). During this first historical phase, the therapy of depressions included such procedures as phlebotomy, purgation, vesicants, cautery to the skull and various forms of hydrotherapy.[2] In view of the recoverability of the depressive disorders, there is no doubt that the apparent success of these methods helped keep alive the therapeutic zeal of many of those who used them.

TABLE 1

HISTORICAL SURVEY OF TREATMENT METHODS FOR DEPRESSION

16th Century	Purgation, vesicants, cautery to skull, hellibore
18th Century	Phlebotomy, hydrotherapy, belladonna
1792	Moral treatment (Pinel, Tuke)
c. 1850	Tincture of opium
1911	Psychoanalysis (Abraham)
1934	Sex hormones (Werner)
1935	Metrazol convulsions (Meduna)
1936	Amphetamine (Myerson)
1938	Electroconvulsions (Cerletti)
1956	Mono-amine oxidase inhibitors (Kline)
1957	Tricyclic compounds (Kuhn)

The 18th and 19th centuries introduced a second phase into the history of the treatment of depression. Although each new pharmacological agent continued to be endowed with specific therapeutic value in the depressions,[3] a new era was pioneered by Pinel, Tuke and others with their "moral treatment" of the mentally ill. This psychotherapeutic attitude toward the mentally ill patient undoubtedly encouraged the recovery process in many of those suffering from depression. Freud's psychoanalysis and Meyer's psychobiology were further extensions of the psychotherapeutic approach to the depressions as well as other mental illnesses.

The third, and present, phase in the development of our knowledge of the treatment of the depressions is fairly recent.[4, 5] The first pharmacological agent to have a specific effect on depressive symptoms was amphetamine.[6] However, its limited value was soon recognized when the transitory and superficial nature of its effect on depressive symptoms became apparent. Convulsive therapy, first induced by metrazol but soon replaced by the electrical method, proved to be the first profoundly effective method for the treatment of depressions. Its spectacular success in bringing about remissions in agitated and other severe depressions can be credited with having given psychiatry a "miracle treatment" which elevated this specialty from a custodial role to therapeutic respectability. More recently, the observation that an elevation of mood occurred during the use of the mono-amine oxidase inhibitors in tuberculous patients led to the development of these drugs as antidepressant agents.[7] Shortly thereafter, the antidepressant effect of the tricyclic series of compounds was recognized and, thereby, became the most recent addition to our therapeutic armamentarium for the depressions.[8]

The Depressed Patient

Although the diagnosis of depression would appear to be a simple affair, the fact remains that a considerable number of cases go undiagnosed and, therefore, are inaccurately treated. This may result from a number of attitudes that affect the general physician's approach to this problem. One of these is the belief that if a person is depressed, there must be an outright reason which can be identified easily by the patient, his family or the physician. This, of course, may not be possible in many instances. Another attitude which may affect the physician in his approach to these problems is too much reliance on a stereotyped picture when considering the diagnosis of depression. This usually means such outright expressions of depression as crying, statements of despondency, sad facies, etc. Many times these manifestations will not be present. Instead, a sizeable proportion of depressed patients will present an atypical picture. These atypical cases, sometimes referred to as "masked depressions," can be considered in two categories. In one, the patient (or his relatives) may complain only of his "nervousness" and the busy physician may be inclined to lump him in with the large number of "nervous" patients who flock to his office. In the second category are those depressed patients who complain only of functional symptoms such as fatigue, aches and pains, vague discomforts, etc. Again, the physician may be inclined to regard them indiscriminately as one of the large group of patients with functional complaints who constitute a good portion of his practice.

However, in each of these two groups of patients (those with "nervousness" and those with other functional complaints), there may be signs of an underlying depressive disorder which will make the physician's approach to their management entirely different than it otherwise would be. I have found the following four questions most useful in "cutting down" to the basic depressive symptomatology of these patients:

1. *"Have you lost interest in those things that ordinarily mean something to you?"* One must fit this to the individual habits of his patient. This may mean loss of interest in hunting, bridge, reading, work, vacationing, visiting friends or any other activity that has meant something to the patient through the years. Ordinarily, the patient himself will be able to provide this information, although sometimes one may need confirmation by a relative or close friend. The "nervous" patient without depression or the patient with functional complaints, who does not have an underlying depression, will not show this loss of interest. This is a crucial point in the differentiation of depressive from non-depressive disorders.

2. *"Does everything seem to be an effort to you?"* The depressed patient will describe a loss of drive and how every problem looms large and difficult. Decisions about the most trivial and routine matters are painfully difficult. Most of the patients with milder depressions will recognize the subjective nature of these difficulties. In contrast, those patients with more severe depressions will regard these ordinary obstacles to be major crises of a real nature.

3. *"Do you have trouble sleeping and in what way?"* Insomnia is one of the most typical symptoms of the depressive syndrome. As these patients persist in their complaints about being unable to obtain comfort and refreshment from their sleep, relatives as well as the attending physician may be inclined to become more and more irritated and impatient. Yet this symptom usually stands at the top of the list when the suffering of the depressed patient is discussed. Most important, diagnostically, is the particular form the insomnia takes in depression. The patient who tells of being able to go to sleep without difficulty, but awakens at 4 or 5 AM and then cannot return to a full sleep is most likely suffering from a depressive disorder. When this early morning awakening pattern is clear-cut and persistent, the diagnosis of depression can be made with certainty.

4. *"Do you feel worse in the morning or evening?"* The patient who says that he is more nervous, fatigued, agitated or depressed in the morning and who improves as the day wears on is suffering from a depressive disorder. As with early morning awakening, an unmistakable history of this daily variation or diurnal rhythm can only mean the presence of a depressive disorder. This clinical point can be of great value in differentiating depression from various other vague functional and physical disorders.

These symptoms (loss of interest, everything an effort, insomnia and diurnal rhythm) are prominent in depression and are emphasized because of their diagnostic significance. However, there are a number of other signs and symptoms which may commonly occur and which may help complete the clinical picture. These include such symptoms as anorexia with weight loss, avoidance of people, a clinging dependence on others, loss of sex drive, periods of crying and despondency, sensations of chilliness or burning and fear of losing control and hurting others. Somatic complaints such as headaches, constipation, nausea, abdominal discomfort and pain syndromes are frequent. Because of these physical complaints, it is only natural that many of these patients will be subjected to an extensive clinical work-up, including laboratory and roentgenological surveys. Such examinations would seem to be even more desirable if the patient has not had a thorough examination recently or if they are in the older age group. However, once the depressed patient has been examined thoroughly and the physician becomes convinced of the absence of organic findings of significance, the importance of giving the patient a positive explanation for his difficulties rests squarely with the physician. The importance of following through with a positive diagnosis and a positive plan for management cannot be over emphasized. These patients are too often left dangling without an adequate explanation. With anxiety and agitation already part of the clinical picture, this delay can only add to the problem. It is the job of the physician to enable the patient and his family to understand that his depression is an illness that can be diagnosed and treated just as other illnesses.

Recent advances in psychopharmacology have resulted in a shift of emphasis in the treatment of depression. This study was made of a series of private patients with a variety of types of depression in order to assess the impact of these advances on current methods of practice. The author found that there is still a substantial need for older forms of treatment such as psychotherapy and electroconvulsive therapy. The effect of this more diversified array of treatment methods emphasizes the greater importance of the physician's ability to identify the depressive disorders among the many functional conditions he meets in his everyday practice. This paper originally was presented in part at the Annual Meeting of the Missouri Academy of General Practice. Doctor Haddock is Assistant Professor of Clinical Psychiatry at the Washington University School of Medicine.

Methods

In order to study the treatment characteristics of the depressed patient, the author reviewed 100 consecutive cases of depression seen in his private psychiatric practice over a period of 28 months (1961 to 1963). These patients represented 25% of the total patient load during this period, indicating the relatively high incidence of this type of disorder. Included in this group were both in-patients and out-patients. This undoubtedly gives a broader-based picture of the depressed patient in general medical practice than many studies which are centered on hospitalized patients only or studies which are limited to one type of hospital or outpatient clinic only.

This series of patients was studied in regard to age, sex, previous psychiatric illness, precipitating factors, weight loss, diurnal rhythm, insomnia, suicidal tendencies, phobias, anxiety, obsessions, somatic complaints, hostility, self-blame, excessive use of alcohol or drugs, severity of illness and length of illness. These clinical characteristics were then related to need for hospitalization, treatment used, predominant treatment effect and outcome.

Results

The tendency of depressions to occur more often with advancing age is reflected in the average age of this group of patients (45.3 years) and the fact that 59% were over the age of 40. Women predominated (77%), which can probably be explained by a combination of factors such as an inherently greater incidence and a greater inclination to seek psychiatric treatment. Since the affective disorders are known to have a recurrent tendency, the finding that 25% had had previous episodes of such illness was to be expected. These involved mainly the depressive manifestations. A compilation of the various precipitating factors of importance (Table 2) indicates the wide range of life stresses that can influence this type of response. Over one-third of the cases had no identifiable precipitating factor.

A study of symptoms revealed a relatively low incidence of the more severe symptoms of depression. Insomnia occurred in 30%; weight loss in 28%; psychoneurotic symptoms such as anxiety, phobias or obsessions in 28%; somatic complaints in 22%; pronounced diurnal rhythm in 11%; suicidal tendencies in 7%; and excessive use of alcohol or medication in 6%. The relatively low incidence of these more severe symptoms of depression is a reflection of the frequency of the milder type of cases in this series. There were 33% rated as mild, 63% as moderate and only 4% as severe. If one divides the case into those over and under 40 years, one can see a tendency toward a different type of clinical picture in each group. Those over 40 have a greater incidence of weight loss, diurnal rhythm, suicidal tendencies and severe insomnia. Those under 40 have a greater tendency toward psychoneurotic symptoms and the presence of precipitating environmental factors.

TABLE 2

Precipitating Factors in 100 Consecutive Cases of Depression

	%
None	36
Marital conflict	17
Family illness or death	10
Operative procedure	9
Post-partum	7
Job conflict	7
Family conflict	7
Physical illness or disability	4
Retirement	3

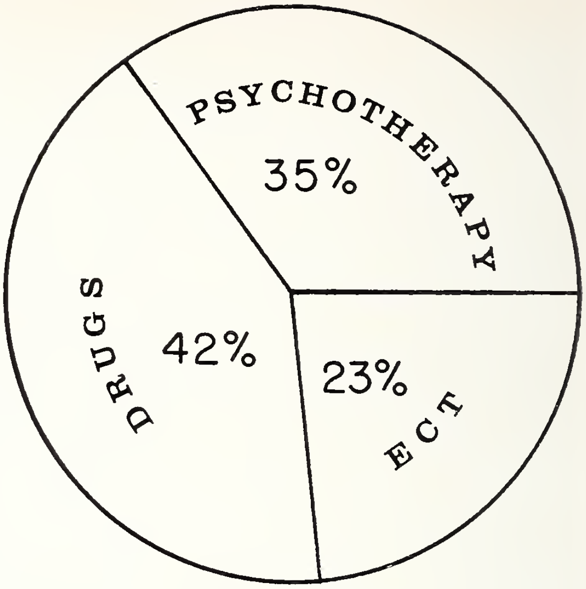

Fig. 1 Primary method of treatment in 100 consecutive cases of depression.

Hospitalization was necessary in 45% of the cases. The principal treatment was drugs in 42%, psychotherapy in 35% and electroconvulsive therapy (ECT) in 23% (Fig. 1). In those patients receiving predominantly drug therapy, 90% responded favorably; in those receiving primarily psychotherapy, 94% were responsive; and in those receiving electroconvulsive therapy, 68% were responsive. Dividing the patients into those over and under 40 years of age, it was found that psychotherapy was most effective in those under 40 years, electroconvulsive therapy was more effective in those over 40 years, and the drugs were equally effective in the two groups. A study of outcome showed that 54% recovered, 42% improved and 4% were unimproved (Fig. 2). There was one suicide.

Discussion

Recognition of the recoverability of these patients allows for a more objective approach to their management. Time will frequently permit the underlying recovery forces to become manifest. The physician must balance this against any urgency for intervention necessitated by increasing disability or complications. The value of treat-

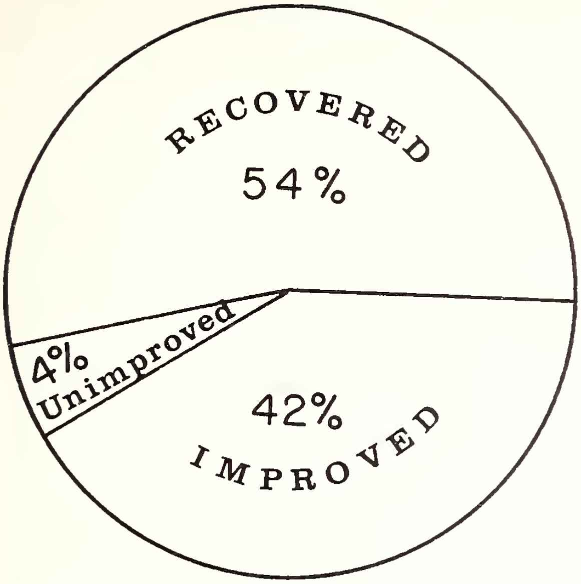

Fig. 2. Outcome in 100 consecutive cases of depression.

ment must be compared with the natural course that might be expected to occur. Only clinical judgment can determine this. Measures of a vigorous nature, such as large amounts of drugs and particularly electroconvulsive treatment, may distort the clinical picture so that an appreciation of the true processes involved may not be possible. The same problem may occur during prolonged and intensive psychotherapy in which the natural course of the illness may be confused for psychotherapeutic effects.

Fig. 3 is a schematic outline for the handling of a typical depressed patient. Psychotherapy, whether planned or a by-product of the patient-physician relationship, begins with the initial contact of history-taking and examination. Discussion at this time may go no further than those immediate environmental strains and stresses apparent to both the physician and patient. The ventilation and reassurance that may occur can be of considerable benefit to many patients with depression. If more prolonged psychotherapy seems indicated, the patient should be referred to the psychiatric specialist.

If there does not appear to be sufficient improvement during this introductory period of psychotherapeutic management, one is justified in proceeding on to the use of antidepressant medication. It should be emphasized at this point that many of the psychotropic drugs, including meprobamate, hydroxyzine, diazepam, chlordiazepoxide, oxazepam and the phenothiazines, are not basically antidepressant in their action. One of the common mistakes in the application of the psychotropic drugs is the reliance on tranquilizing compounds such as these for the treatment of the depressive disorders. All that may result is that superficial relief may be obtained for the anxiety or agitation present, while the underlying depressive core of the illness is not reached (Fig. 4). In selecting the antidepressant drug to be used, one has a wide range of compounds available (Table 3). For depressions of moderate to severe proportions, the tricyclic compounds probably offer the best choice in terms of efficacy and safety of application. Once a drug has been selected, it is most important that the physician (1) use large enough doses to be sure that a therapeutic effect will or won't occur, and (2) persist long enough in the application of the drug to know whether this particular patient will or won't respond. In the case of the tricyclic compounds, for example, this means giving up to 200 milligrams daily for a period of at least two weeks.

If drug therapy does not produce significant improvement and the degree of disability is substantial, one has to consider the advisability of hospitalization and a more intensive form of therapy such as electroconvulsive therapy. This would particularly apply if physical complications or suicidal tendencies exist. Some patients or their families may object so strenuously to

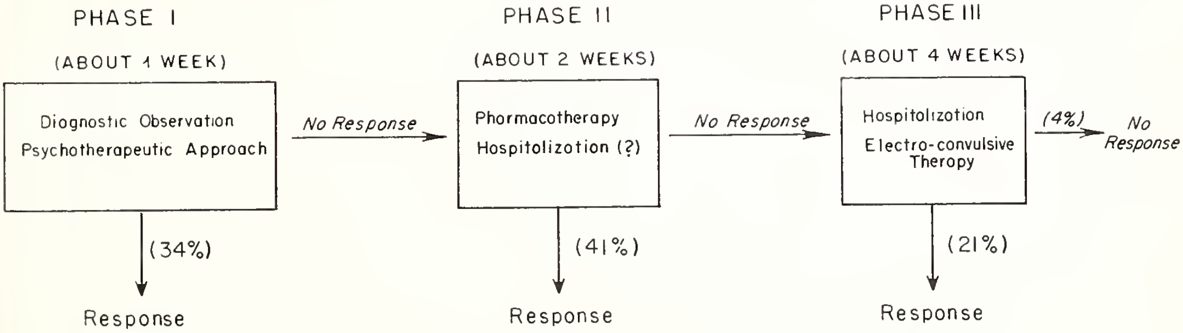

Fig. 3 Schematic outline for the management of the depressed patient.

TABLE 3

DRUGS COMMONLY USED TODAY IN THE TREATMENT OF DEPRESSION

- Milder depressions
  - Dextroamphetamine (Dexedrine)
  - Methamphetamine (Desoxyn, Methedrine)
  - Amphetamines combined with barbiturates (Dexamyl, Desbutal, Ambar)
  - Methylphenidate (Ritalin)
- Moderate to severe depressions
  - Tricyclic compounds
    - Amitriptyline (Elavil)
    - Amitriptyline combined with perphenazine (Triavil, Etrafon)
    - Imipramine (Tofranil)
    - Nortriptyline (Aventyl)
    - Desipramine (Pertofrane, Norpramine)
  - Mono-amine oxidase inhibitors
    - Tranylcypromine (Parnate)
    - Isocarboxazid (Marplan)
    - Phenelzine (Nardil)
    - Nialamide (Niamid)

the use of electroconvulsive therapy that other means must be relied on during hospitalization. If further psychotherapy and drug therapy in the hospital milieu is not successful, this may be sufficient to demonstrate to the patient or his relatives the importance of considering the use of electroconvulsive therapy.

In any approach to the management of the depressed patient, the importance of a holistic approach, both diagnostically and therapeutically, must be emphasized. To fail to consider both the psychological and physiological approaches in the treatment of each case of depression is to deny the patient the advantage of our total knowledge about these conditions. Excessive preoccupation with psychological details, when physiological methods will have a basic effect on the patient, is just as short-sighted as using physiological methods when psychogenic factors are of basic importance. Patients who have an underlying depressive illness, but who manifest it with a distorted and discouraged view of their world which they hope to correct with better understanding and insight, can many times be dramatically changed with physical methods of treatment. In contrast, many patients with underlying personal and environmental conflicts will only be more confused by physical methods of treatment and must be helped psychologically to cope with their difficulties in order for recovery to proceed.

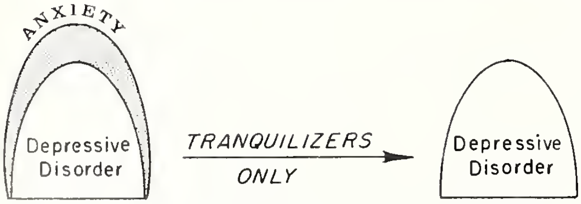

Fig. 4. A common failure in the use of psychotropic drugs in the treatment of the depressed patient.

The wide-spread use of the anti-depressant drugs in the past decade has led to statements that older methods, such as electroconvulsive therapy, are obsolete. It is probably true that these drugs have made electroconvulsive therapy necessary less often than in the past. Yet there still remain many occasions (23% in this series) when electroconvulsive therapy is the treatment of choice. In many of these, one can say that it is indispensable. The most important effect of the addition of a more diversified array of treatment methods has been to increase the necessity for earlier and more accurate diagnosis and the need to choose the most efficacious treatment for the individual patient.

A large proportion of depressed patients will come to the attention of the family physican only. The bulk of these patients are now within the treatment range of the primary physician, and his early recognition and treatment of depression can prevent a great amount of suffering and disability. There are still many patients who will need the specialized care of the psychiatrist. Even with more intensive therapy, there are some patients who will not respond. Hopefully, further advances in psychopharmacology or in other fields will increase our therapeutic effectiveness even further.

SUMMARY

One hundred consecutive private psychiatric patients with the diagnosis of depression were studied. The primary method of treatment was antidepressant drugs in 42%, psychotherapy in 35% and electroconvulsive therapy in 23%. Psychotherapy was most effective in the milder depressions and in younger patients. Electroconvulsive therapy was most effective in the more severe depressions and in older patients. Drugs were effective in a wide range of cases. Of the total, 54% recovered, 42% improved and only 4% were unimproved.

CONCLUSIONS

The diagnosis of depression should be made from positive findings and not from exclusion of organic illness only.

The natural course of most depressions is toward recovery.

The treatment of a large proportion of depres-

(Continued on page 502)

RAYMOND M. KELTNER, JR., M.D., ***Hancock, Michigan***

Late Clinical Manifestations of Foreign Bodies Left in the Abdomen

Case Reports

The consequences of leaving a foreign body in the abdomen during a surgical operation are well known. In the past, these cases were frequently reported, especially when unusual or bizarre complications later developed. Crossen and Crossen[1] found 307 cases in an 81-year period ending in 1940. In recent years, this surgical complication has been relatively neglected in the surgical literature. This may, in part, be due to the specter of litigation that attends every such case. Experience in dealing with two cases of late sequela, due to the accidental leaving of a gauze laparotomy pad in the abdomen, are reported.

Case Reports

Case # 1. A Caucasian woman, aged 30, presented with signs and symptoms of mechanical small bowel obstruction. Four months before, she had been operated upon at another hospital because of an "infected left ovary." One week following this operation, she developed post-prandial vomiting. The vomiting became more frequent; epigastric cramping pain and abdominal distension developed. She had been able to relieve these symptoms by enemata until shortly before admission. She had experienced a 30-pound weight loss. Significant past history included appendectomy at age 15, bilateral salpingectomy at age 26, hemorrhoidectomy one year ago and breast biopsy at the time of her last surgical operation. Physical examination: Temperature, 37.9°C; blood pressure, 150/100; pulse, 100/min. Significant signs were confined to the abdomen, which was distended and diffusely tender. There were no palpable masses. A lower, midline scar was well healed. There were high pitched peristaltic rushes coincident with abdominal colic. No stool was present in the rectum. Admission laboratory examinations, including serum electrolytes, were within normal limits except for mild anemia. Plain X-ray films of the abdomen demonstrated dilated loops of small bowel with air fluid wells. There was some gas within the colon and a mass containing multiple small radio-opaque objects was present in the mid-abdomen (Fig. 1).

A diagnosis of mechanical small bowel obstruction was made and exploratory celiotomy was undertaken. At operation, an inflammatory mass of small bowel, omentum and descending colon was found in the left lower quadrant. The small bowel proximal to this mass was greatly dilated. After decompression of the proximal small bowel, the small bowel and omentum involved in the inflammatory mass was resected and intestinal continuity was re-estab-

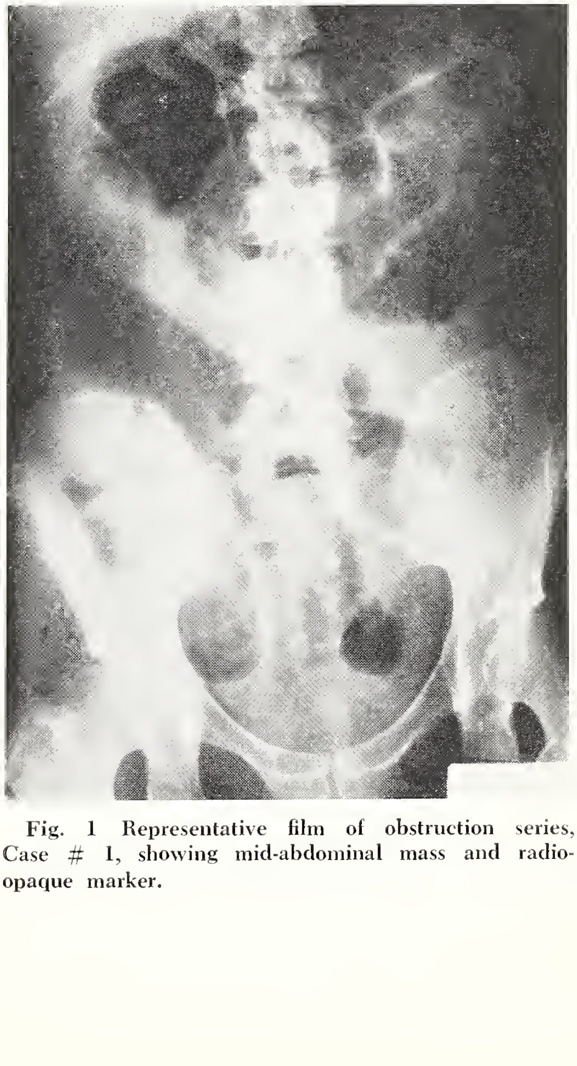

Fig. 1 Representative film of obstruction series, Case # 1, showing mid-abdominal mass and radio-opaque marker.

Two case reports in which gauze foreign bodies were accidentally left in the abdomens of the patients during surgical operations. The author discusses the symptoms and consequences of such cases. Doctor Keltner, formerly Assistant Professor of Surgery at the Washington University School of Medicine and Assistant Surgeon at Barnes Hospital in St. Louis, is presently in the private practice of medicine in Hancock, Michigan.

lished. A laparotomy pad was found in the jejunum distal to the inflammatory mass. The point of intestinal obstruction was the inflammatory mass. The post-operative course was complicated by urinary tract infection and a superficial wound infection. Recovery was otherwise prompt.

Case # 2. A Negro woman, aged 37, was admitted because of upper gastrointestinal bleeding. Her present illness had begun three weeks before admission with epigastric pain and occasional "tarry stools." Hematemesis began the day before admission. The past history included excessive alcohol intake for six years, appendectomy 24 years before and cesarean section eight years ago. Physical examination: Temperature, 37.2°C; blood pressure, 105/50; pulse 100/min. There was a 10-12 cm nontender, movable, mid-abdominal mass. There were healed midline and right lower quadrant scars. Significant laboratory examination included a hematocrit of 10% and positive stool guaiac reaction. Upper gastrointestinal X-ray examination demonstrated a small active ulcer of the gastric antrum. As the barium was observed in its passage, a fistula between ileum and transverse colon was identified. Barium enema examination (Fig. 2) demonstrated again the ileocolic fistula and at least one enteroenteric fistula with an associated cystic mass. Within the mass were two areas of radio-opacity.

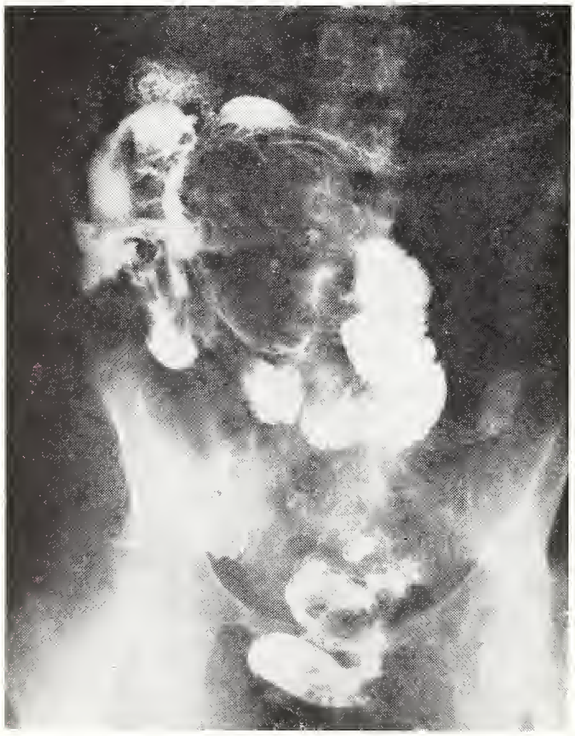

Fig. 2 Representative film of barium enema examination, Case # 2. Abdominal mass and ileocolic fistula are demonstrated.

The gastrointestinal bleeding stopped and she was prepared for surgical operation. At exploratory celiotomy, a large inflammatory mass was found involving distal ileum and transverse colon. The mass was dissected free from the transverse colon, the ileocolic fistula closed, the mass of small bowel resected and intestinal continuity re-established. Upon opening the resected small intestine, the pathologist found a laparotomy pad. There were two areas of fistula formation between loops of small bowel. Histological examination showed fibrosis and chronic inflammation. The post-operative course was complicated by superficial wound infection; otherwise, recovery was uneventful.

Discussion

The fate of a patient with a gauze foreign body within the abdomen depends, in large part, on the degree of bacterial contamination present. The uniform tendency of foreign body extrusion is accelerated by infection. When there is significant contamination, the course is that of abscess formation and frequently the foreign body is extruded from the infected wound, a sinus tract or removed when drainage of the abscess is undertaken. Where there is a lesser degree of contamination, the foreign body is more likely to be encysted or extruded into a contiguous hollow viscus.

Van Marter[2] described the mechanism by which a foreign body gains access to the gut when reporting a case in which the sponge was passed per rectum. An inflammatory mass forms about the foreign body and, unless suppuration intervenes, the foreign body is extruded into the viscus without contamination of the peritoneal cavity. The symptoms that attend this may not be drastic enough to prompt surgical intervention. In both the reported cases, the foreign body per se did not produce the symptoms which brought the patient to the surgeon's care. Even in the preantibiotic era this was not an infrequent occurrence. Crossen and Crossen[1] recorded 30 cases in which the foreign body was passed per rectum and 24 cases in which

(Continued on page 502)

ARCH E. SPELMAN, M.D., *Smithville and*
LOUIS E. MASTERMAN, M.S., *Jefferson City*

A General Practitioner and His Patients

IN THIS DAY OF SPECIALIZATION in the field of medicine, the questions arise: What is a generalist? Does he treat the total patient? Does he tend to establish a stable clientele?

General practice, of course, may be general in intent only. In actual fact, it may be quite circumscribed, indeed. For example, if the physician practices in a locality with a large proportion of older people, he will find himself emphasizing the geriatric aspects of medicine and, perhaps, wishing he knew more about physical medicine and rehabilitation. On the other hand, in a different area where there is a preponderance of young adults, he may be called upon to treat a very large number of children and expectant mothers. Thus, a study of his practice would reveal an emphasis on pediatrics and obstetrics.

The physician's desire to specialize, then, and the field of his specialty training are not the only variables which determine the nature of his practice. Factors over which he has little control frequently are important determinants, for the physician—and especially the generalist—must treat whomever comes to him for help.

But who comes to him for help? Why do they come? And how often does the physician miss the boat, so to speak, in failing to detect an unsuspected disease in its incipiency? In an effort to add to the body of knowledge concerning these and other related questions, the Missouri Division of Health underwrote a study of one general practitioner's two-months panel of patients.

No claim is made that the subject physician is a typical general practitioner or that he is representative of the totality of his confreres. Further, no claim is made that his two-months' panel of patients is representative of all patients who seek the services of generalists in the state of Missouri. On the other hand, it can be stated that the patients involved do represent a cross section of this particular doctor's clientele (despite seasonal variations in presenting symptoms) and that the physician's records, studied for the purposes of this investigation, do reflect his usual manner of perceiving his patients and examining and treating them.

PLAN OF THE STUDY

In planning the study, it was decided to include all patients who had come to see the doctor within the immediately preceding two-months period, i.e., November and December, 1961. The physician, from his understanding of his patients and his clinical notes, was to rate each patient on two five-point scales according to his professional opinion concerning the state of their physical health and their emotional status.

It was also decided that, on a four-year followup, it would later be determined whether or not the patients had developed some unsuspected disease or condition which might have been prevented if the physician had not failed to detect it during the November-December visits. It is important to note that at the time of the patients' visits in 1961, the physician was unaware that his patients and his work were to be the subject of investigation.

THE COMMUNITY

The community is a town of approximately 2,000 population located about 20 miles from the center of a metropolitan area of over a million people. The physician serves what is essentially a suburban and rural population in an area within a 15-mile radius of the town in which his office is located. The population of this catchment area is about 50,000.

THE RATING SCALES

Two rating scales were used: 1) for rating the degree of physical pathology [P] and 2) for rating the degree of emotional pathology [E].

Physical Pathology

The five-point scale on which the patients were rated for physical pathology was as follows:

The results of a study conducted by the Missouri Division of Health of patients who seek the services of a general practitioner and of the general practitioner's usual manner of perceiving his patients and examining and treating them. Doctor Spelman, who is in private practice in Smithville, is Assistant Professor in the Department of Community Health and Medical Practice at the University of Missouri School of Medicine. Mr. Masterman, who was Assistant Professor at the University School of Medicine at the time this paper was prepared, is Program Evaluator for the Missouri Division of Mental Diseases.

P-0 No Pathology

Patients rated as P-0 were those whose only purpose in coming to the physician was to have a physical examination to satisfy some requirement such as for life insurance, employment, engaging in athletic events, etc.; and, upon examination, no pathology was found.

P-1 Mild Pathology

Patients rated as P-1 were those who came to the physician's office with demonstrable physical pathology which was recognizable either by sight or indicated by symptoms about which the patient complained. With these patients there was no thought for failure of recovery nor were they seriously prohibited from carrying on their usual activities at home, at work or in the community. They required only superficial examination and relatively little treatment.

P-2 Moderate Pathology

Patients rated P-2 presented medical problems requiring more thoughtful consideration by the physician and some laboratory tests, including the possibility of X-ray. There was some threat of limitation of activities at home, at work or in the community. Minor surgical management might have been indicated. There was some threat of more severe complications from the illness or injury if it were neglected.

P-3 Severe Pathology

Patients rated P-3 presented conditions which served as definite interferences with normal activities and carried with them the potential for long-term illness, acuteness or severity that might threaten the individual with permanent disability. It was not considered, however, that the presenting conditions would shorten the individual's life expectancy. Neglect, however, would certainly result in an increase in the severity of the condition. Although the patients were expected to recover completely, such recovery could only be possible through careful medical management.

P-4 Dangerous Pathology

Patients rated P-4 presented pathological conditions so severe or so far advanced that they constituted a definite threat to life, with a shortening of life expectancy almost a certainty. Prognosis was poor regardless of physician effort or patient cooperation.

Emotional Pathology

Mental retardation, of course, is an intellectual rather than an emotional anomaly. It is included here only to differentiate it from physical pathology and for ease of classification. The five-point scale on which the patients were rated for emotional pathology was as follows:

E-0 No Undue Concern

Patients rated E-0 displayed concern appropriate to the nature and degree of the physical pathology. These patients were sufficiently concerned about their illness or injury to seek medical attention. Treatment of the presenting physical condition was sufficient to allay the anxiety. There was no emotional problem of such severity as to interfere with home, work or community activities. No evidence of mental retardation was noted.

E-1 Mild Pathology

Patients rated E-1 had some mild concern slightly disproportionate to the degree of severity of the physical illness or injury. Usually treatment of the illness or injury was sufficient to reduce the anxiety. Once the patient's concern was thus handled, he could be expected to carry on his usual home, work and community activities with no loss of effectiveness. There was no question of the emotional disturbance persisting after medical attention to the physical condition, regardless of the severity of the physical condition. No evidence of mental retardation was noted.

E-2 Moderate Pathology

Patients rated E-2 displayed a more forceful demand for the physician's attention to their emotional stress. Their concern appeared to be quite disproportionate to the severity of the physical condition. Although no serious disturbance of home, work or community activities was to be expected with these patients, there was usually some hyperirritability which interfered with interpersonal relationships. Reassurance from the physician was an important part of the treatment program regardless of the presence, absence or the degree of severity of the physical condition. There was, however, no question of the possibility of the patient's experiencing a break with reality. Or, mild mental retardation may have been the presenting pathology.

E-3 Severe Pathology

Patients rated E-3 had an emotional reaction to their real or fancied illnesses and injuries that created some disruption of their family relationships, their work or their usual community activities. With these patients there was present a definite threat of a break with reality. Regardless of the mildness or even the absence of any physical condition, these patients could not carry on their normal activities. Their complaints to the physician and their demands for his attention were urgent and stressful or, because of emotional withdrawal, they were abnormally less than would have been expected in light of the severity of the physical condition. Also, moderate mental retardation may have been the presenting pathology.

E-4 Extreme Pathology

Patients rated E-4 had either already experienced a break with reality or such a break seemed to be imminent. Disruption of relationships at home, at work or in the patient's social life was an accomplished fact or was imminently pending. With such patients there may have been a question as to the possibility of violence, and the patient may have been considered a threat to himself or to others. Or, severe mental retardation may have been the presenting pathology.

Each patient, then, was rated on five-point scales according to the physican's estimation of the degree of severity of the physical and emotional pathology. Ratings of P2-E3, for example, would indicate that the particular patient presented himself to the doctor with a moderate degree of physical pathology and a severe degree of emotional pathology. There were 25 possible combined ratings, ranging from P0-E0 to P4-E4.

More than four years later, in the summer of 1966, the physician was asked to study his clinical notes on the same group of patients. From his written notes made at the time of the patients' visits during this four-year period, he was to determine if any diseases or conditions had developed which might have been prevented had the physician not failed to detect them in their incipiency back during the 1961 visits.

THE PATIENTS

General Characteristics

During the two-month period of the study, the physician saw 689 different patients for a total of 1,348 visits. Thus, he saw each patient for an average of two visits during the period. The patients ranged in age from six months to 95 years; the mean age was 46 years. There were 253 males and 436 females. There was no significant difference in the mean ages of the male and female patients—44.2 and 45.6 years, respectively.

Stability of Clientele

Stability of clientele may be indicated by the length of the doctor-patient relationships as shown in Table 1.

As may be noted in Table 1, the study physician had been treating almost a third of his patients for more than 20 years—almost half of them for more than ten years. Only 4% of his patient load had he known professionally for less than two years, and only one in 689 patients had he known less than a year. It would seem, then, that this general practitioner did, in fact, tend to establish a stable clientele in the community in which he chose to practice medicine.

TABLE 1

LENGTH OF DOCTOR-PATIENT RELATIONSHIP

Length of Relationship	*Percentage of Patients*	*Cumulative %*
Over 20 years	30	30.0
10 to 20 years	15	45.0
5 to 10 years	40	85.0
2 to 5 years	11	96.0
1 to 2 years	4	99.8
Less than one year	.2	100.0

TABLE 2

Degree of Severity of the Physical Pathology by Sex

Degree of Severity	*Male* no.	*Male* %	*Female* no.	*Female* %	*Total* no.	*Total* %
0	5	2	5	1	10	2
1	87	34	198	45	285	41
2	128	51	199	46	327	48
3	31	12	31	7	62	9
4	2	1	3	1	5	1
Totals	253	100	436	100	689	100

Severity of Physical Pathology

As may be noted in Table 2, during the two-month period of the study, the physician saw only two males and three females—less than 1% of this patient load—whom he considered to have a dangerous degree of physical pathology. On the other hand, he saw only ten patients—less than 2% of his caseload—who presented no physical pathology.

Further inspection of Table 2 reveals that the vast majority of his patients or 89% presented either a mild or a moderate degree of physical pathology. It is interesting to note that the male patients presented a greater degree of physical pathology than the female patients (Chi-square = 6.52; with one degree of freedom, p is less than 2%).

There was also a significant difference in the degree of physical pathology on an age basis (Chi-square = 72.07; with 16 degrees of freedom, p is less than one-tenth of 1%).

TABLE 3

Degree of Severity	*Age* 0-12	13-20	21-39	40-64	65 and over	*Total*
0	0	2	6	2	0	10
1	33	29	60	125	37	284
2	31	14	49	156	76	326
3	0	1	6	24	30	61
4	0	0	1	3	0	4
Totals	64	46	122	310	143	685*

* The total does not equal 689 because four patients of unknown age were not included.

Table 3 shows that, as far as this particular physician was concerned, the children, teen-agers and young adults all tended to have less severe physical pathology than was to have been expected. On the other hand, those patients in the oldest age bracket tended to have more severe physical pathology than was to have been expected. The shift seems to have occurred sometime during the middle years.

Severity of Emotional Pathology

Table 4 shows the study physician's estimate of the degree of emotional pathology by sex among the 689 patients. Inspection of Table 4 reveals that he saw only one patient whom he considered either to have had a break with reality or who was about to have one. On the other hand, he saw only 12 patients, 2% of his two-months case load, whom he felt were completely free of undue emotional involvement.

TABLE 4

Degree of Severity of the Emotional Pathology by Sex

Degree of Severity	*Male* no.	*Male* %	*Female* no.	*Female* %	*Total* no.	*Total* %
0	5	2	7	2	12	2
1	81	32	125	29	206	30
2	142	56	246	56	388	56
3	25	10	57	13	82	12
4	0	0	1	0	1	0
Totals	253	100	436	100	689	100

In the opinion of the study physician, two-thirds or 68% had at least a moderate degree of emotional pathology, and 12%—one out of every eight patients, 82 individuals in a two-months caseload—he saw as being severely disturbed. Statistically, there was no significant difference in the degree of emotional pathology on a sex basis (Chi-square = 1.04; with one degree of freedom, p is greater than 20%).

There were, however, significant differences on an age basis (Chi-square = 46.29; with 16 degrees of freedom, p is less than one tenth of 1%) as shown in Table 5. It is interesting that the children, teen-ager and young adult columns had a significantly greater number of patients with only mild or no emotional pathology than might have been expected. On the other hand, the middle aged group had a disproportionately high number of patients with moderate and severe degrees of emotional pathology. Those in the oldest age group had a significantly higher proportion of patients with moderate emotional pathology.

The fact is not ignored that a different general practitioner might have classified the same patients differently, physically as well as emotionally. The physician treats the patient as he under-

TABLE 5
DEGREE OF SEVERITY OF THE EMOTIONAL PATHOLOGY BY AGE

Degree of Severity	*Age in Years* 0-12	13-20	21-39	40-64	65 AND OVER	*Total*
0	1	2	7	1	0	11
1	29	18	44	79	36	206
2	31	25	55	183	91	385
3	3	1	16	47	15	82
4	0	0	0	0	1	1
Totals	64	46	122	310	143	685*

* The total does not equal 689 because the four patients whose ages were unknown are not included.

stands him, however, and his understanding includes his estimation of the degree of the severity of the pathology. In a sense, then, it is the physician's perception of his patients which is here being discussed rather than the accuracy of his evaluations.

In light of the above statement, it would seem rather obvious that this particular general practitioner did not tend to shy away from treating those patients whom *he saw* as being emotionally disturbed.

This is consistent with the findings of a study having to do with the role that physicians in the State of Missouri take in the treatment of mental illness. As stated in that 1965 report:

> "Sixty of the 90 physicians made (voluntary) statements to the effect that they considered treatment of the mentally ill as a routine part of the practice of medicine. In fact, many of them went so far as to say that it made up the largest part of their practice—up to 90% in three instances. Two physicians claimed that if they referred every patient the moment they detected some sign of mental illness, they would have almost no practice left."[1]

Combined Ratings

In order to understand better some of the reasons for the patients' visits to the doctor, the data were analyzed according to whether the patients' physical pathology was more or less severe than their emotional pathology. Differences were significant at below the 1% level of confidence on both age and sex basis.

Up through the middle years, the patients tended to present a clinical picture of emotional pathology inordinately more severe than the degree of physical pathology. On the other hand, in later life, beyond the age of 64, they presented quite the opposite picture and seemed to be relatively little concerned emotionally.

On a sex basis, there was a significantly higher proportion of female patients who presented emotional pathology more severe than the physical pathology. The differences in the degrees of pathology tended to be just the reverse for the male patients.

Development of Illness or Disease

Repeated patient-doctor contacts over a period of several years allows the physician frequent opportunities for discovering unsuspected conditions in their incipiency. Proper treatment at an early stage often can prevent development of serious illnesses and diseases which later might otherwise bring on debilitating conditions or even threaten the patient's life.

Of the 689 patients seen during the two-month period of the study, only seven later developed serious conditions at some time during the four-year follow-up period. Among these were the following:

A 57-year-old woman who frequently complained of abdominal discomfort was diagnosed as being very emotional. Two years later, X-ray revealed a hiatal hernia. Severe esophagitis had developed and esophagoscopy showed ulceration in the lower esophagus. Transthoracic repair of the hiatal hernia resulted in relief of symptoms; emotional complaints continued, however.

A 66-year-old woman who complained of digestive disturbances and many other vague and seemingly unrealistic complaints was later found to have gall stones. The gallbladder was removed. X-ray of the colon and stomach at the time showed diverticulitis of the colon. Sigmoidoscopic examination was refused. Four years later, she complained of rectal bleeding and a 4 cm malignancy was found in the mid-ampulla of the rectum.

A 46-year-old woman, seen during the two-month period of the study, returned repeatedly for almost two years when eventually her symptoms of nervousness became noticeably worse and some dizziness had developed. During this period, she was treated only for menopausal syndrome. Finally referred to a neurosurgeon, she was found to have a brain tumor and an operation was performed. A craniotomy was done and an infiltrating tumor in the subcerebellar-pontine angle was found which was inoperable.

A 63-year-old man had only the complaints of weakness and lack of energy. About two years later, a chest plate showed a considerable infiltration throughout the chest. Within another two years, he had died of multiple myeloma.

There were three patients who died suddenly and unexpectedly during the follow-up period and were diagnosed as having coronary heart disease. Although there were other cardiac deaths among the study patients, these were the only ones where the possibility of impending death had not been anticipated.

Summary

To summarize, then, the study physician, a general practitioner of 27 years' service in the same community, during a two-months period in 1961 saw 689 patients for an average of two visits each.

Over the years, he had tended to establish a very stable practice as indicated by the fact that he had been treating almost half of his patient load for more than ten years.

His male patients, in his opinion, presented a greater degree of physical pathology than his female patients, despite the fact of no significant differences in the mean age of the two groups.

In terms of emotional pathology, two-thirds of his patients presented at least a moderate degree of emotional pathology, and he saw 12% of his patients as being severely disturbed. It was the middle aged patients who seemed to present the greatest emotional problems, and the oldest patients who seemed to be the least concerned. The group of female patients tended to include individuals whose emotional pathology was more severe than the physical pathology.

On a four-year follow-up of the study patients, and as indicated by their clinical notes made at the time of their visits, it appeared that the physician had missed detecting an unsuspected condition which later became serious on only seven occasions from among 689 patients.

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Treatment of Depression (Cont'd)

sive patients is within the province of the family physician, utilizing psychotherapeutic and pharmacological means.

Psychotherapy can be of crucial importance in the treatment of many depressed patients, particularly the younger person with difficulties in adjustment.

Pharmacotherapy has taken a substantial position in the treatment of depression in the past decade. However, it often fails only because the dosage and duration of administration are insufficient.

Electroconvulsive therapy, though probably not necessary as often as in the past, is still the treatment of choice in a sizeable number of patients.

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Late Clinical Manifestations (Cont'd)

it was removed from the gut at subsequent operation. Prevalent use of antibiotics post-operatively may make the relatively aseptic exclusion of foreign bodies more frequent than in the past.

Needless to say, prevention of this surgical accident is still the most cogent aspect of the subject. The techniques are, of course, well known. When signs of inflammation occur post-operatively, plain X-rays of the abdomen should be made.

Summary

1. Two cases of late clinical manifestations of gauze foreign bodies left in the abdomen are reported.

2. In each case, the gauze foreign body was found within the small bowel.

3. In both cases, symptoms responsible for definitive treatment were due to the inflammatory mass at the site of extrusion of the foreign body and not the gauze per se.

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Paraneoplastic Motor Neurone Disease

Case Reports

SINCE 1935, when Greenfield reported the simultaneous occurrence of cerebellar degeneration and carcinoma, an increasing number of neurological disorders have been recognized in patients with cancer. The syndromes recognized to date have recently been reviewed by Woolsey and Nelson[1] and include encephalopathy, cerebellar degeneration, myelopathy, polyneuropathy, myasthenia, polymyositis and myopathy. The neurological disorders may precede or follow symptoms of the cancer and may improve while the malignancy becomes worse or may become worse after the tumor is removed. Lord Brain *et al*[2] and Norris and Engel[3] have reported the occurrence of paraneoplastic "motor neurone disease" and "amyotrophic lateral sclerosis." We have recently encountered two patients with this syndrome which is the subject of this report. A study of these patients, together with those previously described, was undertaken to cite similarities and differences between classical amyotrophic lateral sclerosis and paraneoplastic motor neurone disease and to consider the relationship between the course of the neurological syndrome and that of the associated cancer.

CASE REPORTS

Case # 1. A 41-year-old white man was admitted to the St. Louis University Hospital on Aug. 15, 1966, for evaluation of weakness of the proximal muscles of both upper extremities which had been present for four months. Several weeks prior to the onset of upper extremity weakness, the patient had consulted a physician because of a mass in the right supraclavicular area. Over the subsequent four months, the mass had increased "to the size of a walnut." The patient denied weakness in the lower extremities. No sensory symptoms were present in either upper or lower extremities. The patient denied other neurological symptoms. He had noted a 40-pound weight loss during the four-month period. His past medical history contained nothing else of note.

Physical examination revealed a cachetic patient with normal vital signs. Two by two-and-a-half centimeter, firm, non-tender, movable nodes were palpable in the right supraclavicular fossa and in the inguinal regions bilaterally. The spleen was not enlarged. Profound weakness and atrophy of the parascapular and proximal upper extremity muscles were present bilaterally. The distal musculature of the upper extremities and the proximal and distal muscles of the lower extremities were of normal bulk and strength. No fasciculations were evident. The deep tendon reflexes were generally slightly hyperactive. The plantar responses were flexor bilaterally. Sensory and cranial nerve examinations were normal.

Laboratory examinations showed a normal hemogram except for a hemoglobin of 12.8 gms %. The urinalysis, FBS, BUN, SGOT, SGPT, LDH, CPK and PBI were normal. The cerebrospinal fluid pressure, manometrics, protein and colloidal gold curve were normal. Mild emphysematous changes were noted on chest X-ray. The EMG (electromyogram) showed short duration low voltage potentials with occasional polyphasic transients in the deltoid muscles bilaterally. No fibrillations or fasciculations were present. EMG examination of the remainder of the upper extremity muscles and the lower extremity muscles was normal. Biopsy of the right deltoid

During the last 30 years, an increasing number of neurological disorders have been recognized in patients with cancer, two of which are paraneoplastic motor neurone disease and amyotrophic lateral sclerosis. In this study of two case reports, the authors consider the relationship between the course of neurological syndrome and that of the associated cancer. Doctor Gerling is from the Department of Internal Medicine, St. Louis University Hospitals, and Doctor Woolsey is from the Department of Neurology and Psychiatry, St. Louis University School of Medicine.

muscle showed a reduction in cross-sectional diameter of most fibers in a fascicular pattern with occasional fiber fragmentation. The findings were interpreted as indicating neurogenic atrophy. Biopsy of the right supraclavicular node showed Hodgkin's granuloma.

The patient was given 24 mg of nitrogen mustard with prompt reduction in the size of his inguinal and femoral nodes. He was discharged from the hospital on Aug. 31. On Nov. 22, he was readmitted to the hospital because of chills and fever of several days duration. There had been no improvement in the weakness of his proximal upper extremity muscles.

Physical examination showed an acutely ill patient with a temperature of 103.2° F and a pulse of 100 per minute. The remainder of the vital signs were normal. The positive physical findings included enlarged nodes in the left supraclavicular area and in the posterior and anterior cervical areas bilaterally. On neurological examination, the patient again had moderately severe weakness and atrophy of the parascapular and proximal upper extremity muscles. The forearm and hand muscles were normal bilaterally. The lower extremities showed mild atrophy and weakness of the proximal muscles bilaterally with good distal strength. The deep tendon reflexes were normal. Plantar responses were flexor. Sensory and cranial nerve examinations were normal. Laboratory examinations showed a hemoglobin of 10.0 gms % and a WBC of 3850/mm^3 with 2 stabs, 75 segs, 16 lymphs, and 6 monos. The sed rate was 16 mm/hr. Urinalysis was normal. The patient was given 24 mg of nitrogen mustard. A profound leucopenia and thrombocytopenia developed. The patient was placed on 15 mg of prednisone four times daily following which his white count and platelet count returned to normal. He became afebrile and felt well. After being given 5 mg of Velban IV, he was discharged much improved.

Comment: Initial involvement of the proximal muscles in motor neurone disease is unusual, occurring in only 3% of 151 patients reported by Swank and Putnam.[4] Though the absence of fasciculations and the EMG findings suggested myopathic process, muscle biopsy showed a neurogenic pattern.

Despite improvement in the associated lymphoma, the patient's neurological syndrome continued to progress.

Case # 2. A 48-year-old white man was admitted to St. Louis University Hospital on July 25, 1966, for evaluation of generalized muscle twitching which had been present for a year and a half. In February, 1965, the patient developed an aching pain in his left shoulder. Two months later, he noticed transient muscle twitches in the proximal and distal portions of both upper and lower extremities. These persisted until the time of admission. The patient complained of mild weakness in the proximal and distal portions of both legs and less severe weakness in both arms. He had experienced some urinary hesitancy, but no incontinence or retention. There were no sensory or cranial nerve symptoms. There was no past history of central nervous system infection or injury. He had been treated with multivitamin preparations without improvement. In February, 1966, though his PBI was normal, the patient exhibited symptoms of hypermetabolism and was given a course of 400 mg of Propylthiouracil daily over the next six months, following which he gained six pounds.

Physical examination showed a slight excess of breast tissue on the right. The remainder of the positive physical findings were restricted to the neurological examination. The patient walked with a slight steppage gait. Sensory examination showed a questionable distal blunting to painful stimuli in both lower extremities which became normal about midway between the ankle and the knee. Motor examination showed a mild diffuse weakness and atrophy of muscles which was greater distally than proximally. Marked fasciculations were present in all proximal and distal extremity muscles, as well as in the muscles of the chest and back. The deep tendon reflexes were generally absent. The plantar responses were flexor. Cranial nerve examination was normal except for the presence of marked fasciculations in the tongue bilaterally.

Laboratory examinations showed 2 plus albuminuria. The hemogram, FBS, BUN, Na, K, CL, CO_2, Ca, P, 17-ketosteroids, SGOT, SGPT, CPK and LDH were normal. An anterior mediastinal mass was present on chest X-ray. Bronchoscopy was normal.

The anterior mediastinal mass was removed in toto and proved to be a thymoma, lymphoepithelial in type. At the time of discharge on Aug. 25, a questionable, slight, generalized improvement in muscle strength was noted, but the generalized muscle fasciculations were unchanged.

A sample of the patient's serum was sent to Arthur J. L. Strauss, M.D. of the National Institute of Allergy and Infectious Diseases for examination for possible antibody reactivity against skeletal muscle and thymus. The patient's serum did not react with striational elements of muscle. A biopsy of the right deltoid muscle was normal.

Comment: This patient presented a picture consistent with progressive muscular atrophy, though the degree of muscle weakness and atrophy were considerably less than would be anticipated over the course of a year and a half of this disease and seemed disproportionately slight in view of the severity of the muscle fasciculations.

Norris and Engel reported 13 cases of paraneoplastic motor neurone disease among a series of 130 patients with amyotrophic lateral sclerosis for a total cancer incidence of 10% in this disease. On the other hand, Lord Brain *et al* reported 11 patients with motor neurone disease seen during the examination of 1,465 patients with cancer for a total motor neurone disease incidence of .75% in patients with cancer. This association had not been noted by prior observers. The incidence of cancer in the several reported series of patients with amyotrophic lateral sclerosis is shown in Table 1.

TABLE 1

Incidence of Malignant Tumors in Amyotrophic Lateral Sclerosis

Series	*No. Patients With Amyo. Lat. Sclerosis*	*No. Autopsies*	*No. Amyo. Lat. Sclerosis Patients with Cancer*	*Incidence of Cancer*
				%
Friedman and Freedman[8]	**111**	**50**	**0**	**0**
Wechsler *et al*[7]	**81**	**11**	**1**	**1.2**
Lawyer and Netsky[9]	**53**	**53**	**1**	**1.9**
Norris[3] **and Engel**	**130**	**6**	**13**	**10.0**

The combined series of Norris and Engel and Lord Brain *et al*, together with a case previously reported by O'Doherty[5] and the two cases reported above, constitute a total of 27 patients on whom adequate clinical information is available. Twenty of the patients were male and six patients were females. The sex ratio is similar to that reported in classical amyotrophic lateral sclerosis by Lord Brain *et al* and by Mackay.[6]

The ages of patients who developed paraneoplastic motor neurone disease are somewhat older than those of classical amyotrophic lateral sclerosis. Only 23% of patients with motor neurone disease and cancer were under 50 years of age, whereas 54% of 81 patients with amyotrophic lateral sclerosis studied by Wechsler *et al*[7] and the 50% of 111 patients studied by Friedman and Freedman[8] were under 50 years of age.

Thirteen of the patients with paraneoplastic motor neurone disease presented with a syndrome of progressive muscular atrophy, that is, with lower motor neurone signs of fasciculation and atrophy. Thirteen of 27 patients showed typical picture of amyotrophic lateral sclerosis having additional upper motor neurone signs such as extensor plantar responses. Only one patient presented with involvement of the tongue and pharynx. There were no cases of upper motor neurone disease alone (primary lateral sclerosis). The incidence of progressive muscular atrophy is considerably higher than the 28.6% reported in the series of Mackay and the 17.2% in the series of Swank and Putnam.

Symptoms referable to the tumor were noted first in 12 patients, while neurological symptoms preceded tumor symptoms in 15 patients.

The neoplasms reported in association with "amyotrophic lateral sclerosis" include: carcinoma of the lung in nine cases, lymphoma or leukemia in five cases, carcinoma of the breast in four cases, thymoma in two cases, carcinoma of the colon in two cases, carcinoma of the stomach in two cases, carcinoma of the prostate in one case, seminoma in one case and astrocytoma in one case.

Seventeen patients had chemotherapy or surgical resection of their tumor. The results of treatment are shown in Table 2.

Thus only in the last patient in the table, Case # 2, does treatment afford at least a possibility of surviving both the tumor and the neurologic disorder.

Seven patients with paraneoplastic motor neurone disease have had post-mortem studies of the central nervous system. No abnormalities of the cerebral cortex were noted in six patients in whom this was examined. The pyramidal tract showed demyelination in five cases and was normal in two. Mild posterior column degeneration was noted in two patients. Anterior horn cells were reduced in number and showed degenerative changes in five patients and were normal in two. Mild degenerative changes in the posterior root ganglia were noted in the two pa-

TABLE 2

Effects of Treatment in Paraneoplastic Motor Neurone Disease

No. Patients	*Tumor*	*Neurological Symptoms*	*Case Reference*
7	**Improved**	**Progressed**	**2**[6], **3**[1, 3, 4, 6, 7] **Case 1**
4	**Cured**	**Progressed**	**2**[11], **3**[9, 11, 13]
4	**Progressed**	**Progressed**	**2**[2, 4, 8], **3**[8]
1	**Progressed**	**Improved**	**2**[3]
1	**Cured**	**Stabilized**	**Case 2**

tients reported by Lord Brain. These findings contrast somewhat with those previously reported in classical amyotrophic lateral sclerosis. Lawyer and Netsky[9] reported some degree of cortical Betz cell loss in all of 49 patients studied, though Davison[10] found Betz cell loss in only 12 of 42 patients studied. The degenerative changes in the posterior roots reported by Lord Brain *et al* have never been noted in classical amyotrophic lateral sclerosis, though similar changes have been reported in the dorsal roots in sensory neuropathy with bronchial carcinoma by Denny-Brown[11] and others.

Anti-brain antibodies were found in all of four cases of sensory neuropathy with bronchial carcinoma studied by Wilkinson and Zeromski.[12] Lord Brain obtained such immunological study on one patient with paraneoplastic motor neurone disease with negative results. Strauss *et al*[13] have reported the occurrence of autoantibody reactivity to striated muscle and thymus in 95% of the patients with thymomas and myasthenia gravis and 24% of patients with thymomas without myasthenia gravis. The patient herein reported with a thymoma and associated motor neurone disease showed no antibody reactivity to striated muscle.

While it is not possible to draw definite conclusions regarding the identity or individuality of paraneoplastic motor neurone disease and classical amyotrophic lateral sclerosis, certain important differences are apparent. Patients with paraneoplastic motor neurone disease tend to be older and to have a statistical predominence of lower motor neurone signs compared to those with classical amyotrophic lateral sclerosis. One patient with motor neurone disease and lung cancer showed a definite objective neurologic remission which is never seen in classical amyotrophic lateral sclerosis. From a neuropathological standpoint, none of the patients with paraneoplastic motor neurone disease has shown involvement of the motor cortex which is frequently seen in classical amyotrophic lateral sclerosis and, on the other hand, two cases of motor neurone disease with cancer have shown degenerative changes in the posterior root ganglia which have not been reported with classical amyotrophic lateral sclerosis. These discrepancies are of sufficient magnitude to conclude that, based on present evidence, it is not possible to assume that the two conditions represent the same disease.

Summary

1. Certain patients with malignant tumors develop an associated neurologic syndrome characterized by diffuse motor weakness, atrophy and fasciculations with or without hyperreflexia and extensor plantar responses resembling amyotrophic lateral sclerosis.

2. The neurologic symptoms may precede or follow symptoms referable to the tumor.

3. The cancer patient who develops this syndrome is afflicted with two grave disorders which behave as though independent of one another and his chance of surviving both is remote.

4. Paraneoplastic motor neurone disease shows sufficient clinical and neuropathological difference from classical amyotrophic lateral sclerosis to preclude the assumption that they are identical.

Acknowledgement: The authors wish to thank Dr. Louis L. Tureen and Dr. Thomas F. Frawley for permission to study and report these patients.

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* * *

Any medical society member who is interested in current legal developments affecting the medical profession would enjoy receiving the semimonthly newsletter, "The Citation." This newsletter, published by the Law Division of the AMA, is directed primarily to attorneys for medical societies, medical society executives and members of medicolegal committees, but many other physicians have been added to the mailing list at their request.

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In Memoriam

Leslie, James F., M.D., Springfield, a graduate of Bennett Medical College, Loyola University, 1914; member of Greene County Medical Society; aged 78; died March 25, 1967.

Counsell, Chester Mason, M.D., Kansas City, a graduate of St. Louis College of Physicians and Surgeons, 1907; member of Jackson County Medical Society; aged 83; died March 29, 1967.

Wimp, J. J., M.D., Kirksville, a graduate of Washington University, 1933; member of North Central Counties Medical Society; aged 62; died March 31, 1967.

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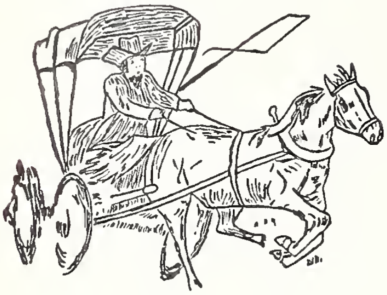

FORTY YEARS AGO

The annual meeting of the American Medical Association in Washington was one of the busiest sessions that organization has held in years. President Coolidge conferred on the organization the distinction of his approval of the scientific attainments of AMA. The capacity of the hall was taxed to its utmost by the 6,000 people who were admitted, but about 5,000 others were crowded in the streets and unable to gain admission. The installation of AMA President Jackson was a notable occasion and his address evoked generous applause and unanimous approval. Kansas City made a strong bid for AMA to meet there in 1928, but Minneapolis proved too strong a contender and won the decision.

The State Supreme Court rendered a judgment on May 23 declaring the charter of the St. Louis College of Physicians and Surgeons revoked. As is well known, this organization was the hub of the medical diploma mill which was exposed in 1923 and found to have ramifications in all parts of the country.

At 3:13 PM on Monday, May 9, 1927, the greater part of Poplar Bluff was completely destroyed by a tornado. It was said the storm lasted three minutes. Eighty-eight persons were killed, 300 injured and 325 families rendered homeless. The medical men of the city proved themselves heroes in this great emergency. They labored incessantly for 40 hours without sleep and with little food while being drenched to the skin by the rain.

TWENTY-FIVE YEARS AGO

Dr. Andrew W. McAlester, Jr., Kansas City, was elected President-Elect by the MSMA House of Delegates at the Kansas City session. Dr. McAlester was born in Columbia, the son of Dr. Andrew McAlester who was Dean of the University of Missouri School of Medicine for 37 years and president of MSMA in 1889.

An Inter-American meeting, with papers presented by medical authorities from North, Central and South America, will be one of the highlights of the 93rd annual session of AMA in Atlantic City. Delegates to the session will be Drs. A. R. McComas, Sturgeon; W. L. Allee, Eldon; Robert E. Schlueter, St. Louis, and Rexford L. Dively, Kansas City. Missouri physicians who will present addresses are Drs. J. Milton Singleton and Herbert F. Vanorden, Kansas City; Robert Elman, Willard M. Allen, James B. Costen, O. P. J. Falk, Carl V. Moore, H. R. McCarroll, Adolph H. Conrad, Adolph H. Conrad, Jr. and Richard Weiss, St. Louis.

A special announcement by the Procurement and Assignment Service for Physicians, Dentists and Veterinarians states in the *AMA Journal* that 16,000 physicians will be needed by the Army by December 31 and 5,000 of this number are required at once.

TEN YEARS AGO

W. F. Francka, M.D., Hannibal, was elected President-Elect of MSMA at the 99th Annual Session in Kansas City.—Orval R. Withers, M.D., was installed as president of the American College of Allergists at the annual convention in Chicago.

F. A. Barnett, M.D., Paris, was elected mayor of that city recently.—New president of the Sedalia Rotary Club is Dr. C. G. Stauffacher.—The Silver Antelope, the highest regional award the Boy Scout organization can bestow on adult volunteer leaders, has been presented to Durward G. Hall, M.D., Springfield.—Thelma Buckthorpe, M.D., Sikeston was guest speaker at a meeting of the Rotary Club in that city.—The Optimist Club in Kansas City has elected Harrison C. Trippe, M.D., vice-president.

The Wellsville *Optic-News* featured a story on the life of Albert Hirsch, M.D., Middletown, and told of his receiving the MSMA 50 year emblem.

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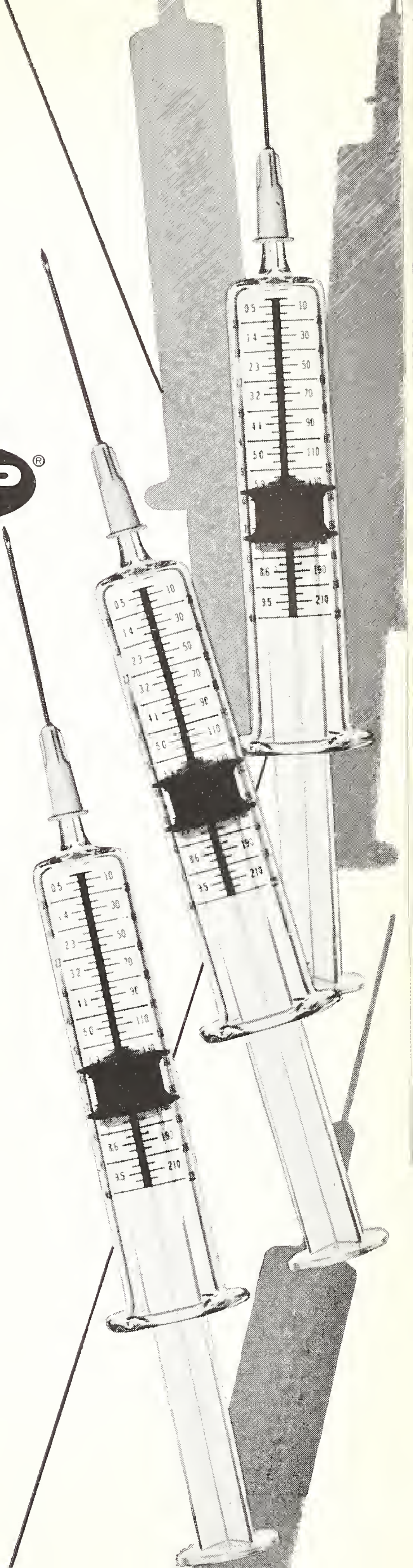

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Minutes of the
109th Annual Session

MISSOURI STATE MEDICAL ASSOCIATION

House of Delegates
Chase-Park Plaza Hotel, St. Louis
April 6-9, 1967

FIRST SESSION
Thursday, April 6, 1967

The First Session of the House was called to order at 3:30 PM in the Chase Club with Stanley S. Peterson, Speaker, presiding. The following officers, councilors and delegates were present during the 109th Annual Session:

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2nd District	Lysle M. Bach, M.D., Hannibal
3rd District	David N. Kerr, M.D., St. Louis
4th District	Robert A. Mayer, M.D., St. Louis County
5th District	James C. Cope, M.D., Columbia
6th District	Rolla B. Wray, M.D., Nevada
7th District	Gerald L. Miller, M.D., Kansas City
8th District	Doyle C. McCraw, M.D., Bolivar
9th District	E. A. Stricker, M.D., St. James
10th District	W. D. English, M.D., Cardwell

DELEGATES

First District

Buchanan	John N. Martin, St. Joseph
Buchanan	Richard V. Riddell, St. Joseph
Buchanan	Ernest E. Wadlow, St. Joseph
Clay	Donald Fakhoury, N. Kansas City
Clay	Phillip E. King, Liberty
Clay	John B. Withrow, Kansas City
Grand River	
Grundy	Chester L. Clark, Trenton
Grundy	Albert D. Cross, Trenton
Linn	John R. Dixon, Brookfield
Linn	Glennon Horner, Marceline
Northwest	
Gentry	T. O. Morgan, Albany
Holt	James Humphrey, Mound City
Nodaway	Elvin D. Imes, Maryville
Worth	R. E. Dunshee, Maryville
Platte	Graham Parker, Platte City

Second District

Chariton-Macon-Monroe-Randolph	F. A. Barnett, Paris
Chariton-Macon-Monroe-Randolph	James Campbell, Macon
Chariton-Macon-Monroe-Randolph	F. L. Harms, Salisbury
Chariton-Macon-Monroe-Randolph	A. P. Rowlette, Moberly
Lewis-Clark-Scotland	Landis Y. Davis, Canton
Marion-Ralls-Shelby	Thomas J. Fischer, Hannibal
Pike	Charles Lewellen, Louisiana

Third District

St. Louis City	Archibald M. Ahern, St. Louis
St. Louis City	Malcolm Bawell, St. Louis
St. Louis City	Donald Bindbeutel, St. Louis
St. Louis City	Bryce H. Bondurant, St. Louis
St. Louis City	Edward Cannon, St. Louis
St. Louis City	Dallas Dyer, St. Louis
St. Louis City	John P. Eberle, St. Louis
St. Louis City	Joseph C. Edwards, St. Louis
St. Louis City	Max S. Franklin, St. Louis
St. Louis City	Leonard T. Furlow, St. Louis
St. Louis City	James Y. Griggs, St. Louis
St. Louis City	Walter T. Gunn, St. Louis
St. Louis City	George L. Hawkins, Jr., St. Louis
St. Louis City	Ronald Hertel, St. Louis
St. Louis City	Charles A. Jose, St. Louis
St. Louis City	Robert W. Kelley, St. Louis
St. Louis City	David N. Kerr, St. Louis
St. Louis City	Norman P. Knowlton, Jr., St. Louis
St. Louis City	Lynn Krause, St. Louis
St. Louis City	Charles B. Ladd, St. Louis
St. Louis City	Everett Lerwick, St. Louis
St. Louis City	Warren Lonergan, St. Louis
St. Louis City	J. Otto Lottes, St. Louis
St. Louis City	Joseph L. Lucido, St. Louis
St. Louis City	Paul F. Max, St. Louis
St. Louis City	Arthur W. Neilson, St. Louis
St. Louis City	Lawrence O'Neal, St. Louis
St. Louis City	D. Elliott O'Reilly, St. Louis
St. Louis City	Eugene Pennington, St. Louis
St. Louis City	Earl A. Powell, St. Louis
St. Louis City	Albert M. Repetto, St. Louis
St. Louis City	Hubert A. Ritter, St. Louis
St. Louis City	Ernest H. Schaper, St. Louis

St. Louis City	John Sciortino, St. Louis
St. Louis City	Daniel L. Sexton, St. Louis
St. Louis City	Charles S. Sherwin, St. Louis
St. Louis City	William Stoneman, III, St. Louis
St. Louis City	Juan M. Taveras, St. Louis
St. Louis City	Robert Thomasson, St. Louis
St. Louis City	C. M. Turner, St. Louis
St. Louis City	Herbert Wiegand, St. Louis

Fourth District

Franklin-Gasconade-Warren	W. R. Richardson, Union
Franklin-Gasconade-Warren	G. M. Workman, Hermann
Lincoln-St. Charles	L. Hetlage, Troy
Lincoln-St. Charles	Paul H. Rother, St. Charles
St. Louis	C. Read Boles, St. Louis
St. Louis	Edmund V. Cowdry, Jr., St. Louis
St. Louis	Edgar W. Davis, St. Louis
St. Louis	C. Howe Eller, St. Louis
St. Louis	Allen Klippel, St. Louis
St. Louis	Paul W. Miles, St. Louis
St. Louis	Charles Miller, Jr., St. Louis
St. Louis	James R. Nakada, St. Louis
St. Louis	J. Martyn Schattyn, St. Louis
St. Louis	Melvin Schwartz, St. Louis
St. Louis	James C. Sisk, St. Louis
St. Louis	Richard A. Sutter, St. Louis
St. Louis	Miles Whitener, St. Louis

Fifth District

Audrain	Leonard Davis, Mexico
Boone	Robert L. Jackson, Columbia
Boone	LeRoy J. Miller, Columbia
Boone	C. Thorpe Ray, Columbia
Boone	William B. See, Columbia
Boone	Hugh E. Stephenson, Jr., Columbia
Boone	John H. Walters, Columbia
Callaway	James K. Ritterbusch, Fulton
Cole	Donald Shull, Jefferson City
Cooper	G. W. Winn, Boonville
Moniteau	Lionel M. Gallagher, California
Morgan	Jack Gunn, Versailles

Sixth District

Henry	Richard King, Clinton
Johnson	Keith D. Jones, Warrensburg
Lafayette-Ray	Joe Cope, Lexington
Lafayette-Ray	George Davault, Richmond
Pettis	C. Gordon Stauffacher, Sedalia
Saline	James A. Reid, Marshall
West Central	
Bates	Arthur L. Hansen, Butler
Cass	Edward Jones, Harrisonville
Vernon	James J. Pascoe, Nevada

Seventh District

Jackson	Raymond B. Anderson, Kansas City
Jackson	Pat A. Barelli, Kansas City
Jackson	John L. Barnard, Jr., Kansas City
Jackson	Carl R. Brust, Kansas City
Jackson	Robert W. Forsythe, Kansas City
Jackson	Fred D. Fowler, Kansas City
Jackson	J. A. Griffith, Jr., Kansas City
Jackson	Ralph Hall, Kansas City
Jackson	Kenneth C. Hollweg, Kansas City
Jackson	John B. Justus, Kansas City
Jackson	John E. Kyger, Kansas City
Jackson	Cecil G. Leitch, Kansas City
Jackson	George J. Lytton, Kansas City
Jackson	Frederick J. McCoy, Kansas City
Jackson	James R. McVay, Jr., Kansas City
Jackson	Paul W. Meyer, Kansas City
Jackson	Sidney Rubin, Kansas City
Jackson	Russell D. Shelden, Kansas City
Jackson	R. A. Slickman, Kansas City
Jackson	Othello D. Smith, Kansas City
Jackson	Harry Statland, Kansas City
Jackson	Walter J. Stelmach, Kansas City
Jackson	Wayne K. Tice, Kansas City
Jackson	C. Y. Thomas, Jr., Kansas City
Jackson	Charles B. Wheeler, Jr., Kansas City

Eighth District

Dallas-Hickory-Polk	O. A. Griffin, Buffalo
Dallas-Hickory-Polk	Ben H. Koon, Bolivar
Greene	M. D. Bonebrake, Springfield
Greene	James T. Brown, Springfield
Greene	Howard J. McAlhany, Springfield
Greene	Robert W. Maher, Springfield
Greene	F. Thomas Moseley, Springfield
Greene	Stanley S. Peterson, Springfield
Jasper	Richard R. Cohle, Carthage
Ozarks	
Barry	Robert Donley, Monett
Christian	Stanley Roper, Ozark
Lawrence	Kenneth Glover, Mt. Vernon
Newton	G. W. Blankenship, Neosho
Stone	J. W. Gardner, Reeds Spring
Stone	Fred W. Wommack, Crane
Webster	T. M. Macdonnell, Marshfield

Ninth District

Mid-Missouri	
Laclede	Rae Froelich, Lebanon
Phelps	J. M. Myers, Rolla
South-Central	
Howell	W. Tom Morgan, Jr., West Plains
Oregon	C. W. Cooper, Thayer
Texas	Joe Spears, Cabool

Tenth District

Butler-Ripley-Wayne	Eugene Hansbrough, Poplar Bluff
Butler-Ripley-Wayne	B. M. McLain, Poplar Bluff
Butler-Ripley-Wayne	Eugene Ruff, Poplar Bluff
Cape Girardeau	Edwin K. Burford, Cape Girardeau
Cape Girardeau	Melvin Kasten, Cape Girardeau
Cape Girardeau	Harold Rapp, Cape Girardeau
Mineral Area	
Iron	Ben Bull, Ironton
St. Francois	Robert A. Huckstep, Farmington
St. Francois	R. W. Osborn, III, Farmington
Washington	Kirby L. Turner, Potosi
Pemiscot	O. W. Cook, Caruthersville
Semo	
Mississippi	R. L. Frazier, Charleston
Scott	Stephen Parks, Sikeston

The invocation was given by Association President Byron M. Stuart.

Dr. David N. Kerr, General Chairman of the Arrangements Committee welcomed the Association members to St. Louis and expressed the hope that they would have an outstanding convention.

The minutes of the 108th (1966) Annual Session, which were published in the July 1966 issue of Missouri Medicine, were accepted as published.

The chairman of the Credentials Committee, Dr. Arthur W. Neilson, reported that satisfactory credentials had been presented by seven officers, ten councilors and 138 delegates. He informed the House that this number of delegates constitutes a quorum.

The Speaker announced appointment of the following reference committees:

ON REPORTS OF OFFICERS

Herbert C. Wiegand, St. Louis, Chairman
Kirby L. Turner, Potosi
John L. Barnard, Jr., Kansas City
Edward Jones, Harrisonville
Paul H. Rother, St. Charles

ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

James N. Haddock, Clayton, Chairman
Pat A. Barelli, Kansas City
MacDonald Bonebrake, Springfield
W. Thomas Morgan, Jr., West Plains
Jack Gunn, Versailles

ON MISCELLANEOUS AFFAIRS

Avery P. Rowlette, Moberly, Chairman
Robert W. Kelley, St. Louis
Harold B. Rapp, Cape Girardeau
Melvin Schwartz, St. Louis
Cecil G. Leitch, Blue Springs

ON RESOLUTIONS

Frederick J. McCoy, Kansas City, Chairman
Albert D. Cross, Trenton
Thomas J. Fischer, Hannibal
Joseph S. Cope, Lexington
Charles S. Sherwin, St. Louis

ON MEDICAL EDUCATION AND PUBLIC WELFARE

C. Thorpe Ray, Columbia, Chairman
Ben H. Koon, Bolivar
Elvin D. Imes, Maryville
Carl E. Lischer, St. Louis
C. Read Boles, Clayton

ON NECROLOGY

Kenneth Glover, Mount Vernon, Chairman
Richard V. Riddell, St. Joseph
Leonard L. Davis, Mexico
James M. Myers, Rolla
Stephen Parks, Sikeston

The Speaker called on Doctor Stuart to deliver the annual President's Message.

(The President's Message is published on Page 565.)

The Speaker then called on Dr. Hector W. Benoit to present the annual message of the incoming President.

(Doctor Benoit's address is published on Page 567.)

The Speaker then invited Mrs. Wallace Stacey to present the annual report of the President of the Woman's Auxiliary.

(This report is published on Page 569.)

The following reports, which were published in the Delegates' Handbook, were noted and assigned to appropriate committees:

REPORT OF THE SECRETARY

The Missouri State Medical Association had 4,063 members as of December 31, 1966. This was an increase of 68 members over the previous year.

MEMBERSHIP CHANGES DURING THE YEAR

Members, January 1, 1966		3,995
New Members admitted during year	184	
Reinstated	8	
Total added	192	
Members dropped during year	22	
Deceased	62	
Transferred to other states	32	
Resigned	8	
Total lost	124	
Net gain		68
Members, December 31, 1966		4,063

The Committee on Nominations, which is appointed by the President from the House of Delegates, must submit nominations for the following offices:

Three Vice Presidents to fill the expired terms of B. J. Bass, Salem; George W. Winn, Boonville; Fred L. Wommack, Crane.

A Speaker of the House of Delegates and a Vice Speaker of the House of Delegates to fill the expired terms of Stanley S. Peterson, Springfield, Speaker; and Paul F. Max, St. Louis, Vice-Speaker. The By-Laws of the Association provide that the Speaker and Vice-Speaker shall not serve more than three consecutive terms. The present Speaker and Vice-Speaker at the close of the 1967 Annual Session will have served three consecutive terms in their respective offices.

Two Delegates and corresponding alternates to the American Medical Association to fill the vacancies created by the expiration on December 31, 1967 of the terms of Delegate, Richard H. Kiene, Kansas City; Alternate, Hugh E. Stephenson, Jr., Columbia; Delegate, Arthur W. Neilson, St. Louis; Alternate, Robert Kelley, St. Louis.

The terms (two years) of the Councilors of the even numbered districts expire this year. These Councilors are: Lysle M. Bach, Hannibal, Second District; Robert A. Mayer, St. Louis County, Fourth District; Rolla B. Wray, Nevada, Sixth District; Doyle C. McCraw, Bolivar, Eighth District; W. D. English, Cardwell, Tenth District. Delegates from these districts shall meet during the Annual Meeting before the morning of the last day of the session, and elect the Councilor for their district. The election shall be certified to the House of Delegates on a prescribed form which will be furnished.

The entire session will be held in the Chase-Park Plaza Hotel, St. Louis. The House of Delegates will hold its first session on Thursday, April 6, at 3:30 p.m. in the Chase Club. Reference committees will meet in committee rooms in the hotel. The second session of the House of Delegates will convene at 4:30 p.m., Friday, April 7, in the Chase Club. The final session of the House, a breakfast meeting, will be held in the Chase Club of the Hotel at 7:30 a.m., on Sunday, April 9.

when he just can't sleep

Tuinal

One-Half Sodium Amobarbital and
One-Half Sodium Secobarbital
supplied in ¾, 1½, and 3-grain Pulvules

Tuinal helps wakeful patients fall asleep fast, stay asleep all night.

Indications: Tuinal is indicated for prompt and moder-ately long-acting hypnosis. It is not suitable for con-inuous daytime sedation.

Contraindications: Barbiturates should not be adminis-ered to anyone with a history of porphyria, nor should hey be given in the presence of uncontrolled pain, be-ause excitement may result.

Varning: May be habit-forming.

recautions: Tuinal should be used cautiously in pa-ients with decreased liver function, since prolongation f effect may occur.

dverse Reactions: Idiosyncrasy, such as excitement, angover, or pain, may appear. Hypersensitivity reactions occur in some patients, especially in those with asthma, urticaria, or angioneurotic edema.

Overdosage: C.N.S. depression. Symptoms—Depression of respiration and of superficial and deep reflexes, slight constriction of the pupils (in severe poisoning, dilation), decreased urine formation, lowered body temperature, coma. Treatment—Symptomatic and supportive (gastric lavage; intravenous fluids; maintenance of blood pressure, body temperature, and adequate respiration). Dialysis may speed removal of barbiturates from body fluids.

Dosage: 50-200 mg. (¾-3 grains) at bedtime.

[031767]

Additional information available to physicians upon request.
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Lilly

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Registration facilities will be open on Thursday, April 6, from 1:00 p.m. to 5:00 p.m., Friday, April 7, and Saturday, April 8, from 8:00 a.m. to 5:00 p.m.; and on Sunday, from 7:30 a.m. to 9:00 a.m. Registration will be in the Chase Lounge of the Chase Hotel.

John I. Matthews, Secretary

REPORT OF THE TREASURER

The report of the Treasurer is covered in the Financial Statement which appeared in the March issue of MISSOURI MEDICINE. The publication was in the hands of members and component medical societies one month prior to this Annual Session. Therefore, it is not repeated here.

Walter T. Gunn, Treasurer

REPORT OF THE EXECUTIVE SECRETARY

In conformity with the action of the House of Delegates at the 1966 Annual Session, the Executive Office was moved to Jefferson City, Missouri and officially opened here, September 1, 1966.

Staff personnel who moved to Jefferson City with the office change were Mr. Raymond McIntyre, Mr. Allen D. Smith, Mr. Thomas Fox and Mrs. Bertha Thomas. Mr. T. R. O'Brien remained in St. Louis, but continues on the staff as executive assistant.

Four new employees have been added to the staff since the office moved to Jefferson City. They are: Miss Jean Duensing, Mrs. Gladys Grimes, Mrs. Ruth Pack and Mrs. Wilma Sperry.

Your Headquarters Office is located in the Medical Arts Building, 515 East High Street, with the amount of space approximately equal to that previously occupied in St. Louis.

There have been some minor problems associated with the office move but we believe these have been resolved without undue stress on the part of all concerned.

The members of your headquarters staff have been working hard in assisting with the detailed preparations for this Annual Meeting. The Missouri Legislature has been in session since January 4, 1967 with a number of bills under consideration which are of special interest to the medical profession.

Other activities of the staff have been associated with programs and projects carried on by various committees of the Association, the Council and the Missouri State Medical Foundation.

Mr. Raymond McIntyre, Executive Secretary

REPORT OF THE COMMITTEE ON SCIENTIFIC AND POSTGRADUATE WORK

The Committee on Scientific and Postgraduate Work feels that the scientific program for the 1967 MSMA Annual Session should be of sufficient broad interest to attract the attention of the entire membership. With a choice of two and three scientific sessions running concurrently, along with a continuous, carefully selected program of scientific movies, a large attendance is contemplated. The Committee is most appreciative of the cooperation of other organizations and specific committees of the Association which have developed and will present particular parts of this year's scientific program.

Special thanks are given to the following for their assistance: Missouri Division of the American Cancer Society, Missouri Heart Association, Missouri Chapter American College of Chest Physicians, Missouri University Medical School, Missouri State Surgical Society, Missouri Society of Internal Medicine, Missouri Academy of Psychiatry, Missouri Ophthalmological Society, St. Louis Rheumatism Society, Wilfred E. Wooldridge, M.D., Springfield, MSMA Committees on Aging, Anesthesiology, Maternal Welfare, Medical Economics, Legislative Matters, Physical Medicine and Rehabilitation, and Trauma.

The Committee on Scientific and Postgraduate Work has continued, with the aid of the executive staff, to assist county medical societies in planning programs and securing speakers. Members of the committee are currently working in their respective Councilor Districts in organizing a Councilor District Committee to serve as a sub-committee of our Committee. These sub-committees through close liaison with local medical societies and individual physicians are requested to submit suggestions for desired scientific programs on county, district and state levels. Our Committee, working with representatives of the three medical schools in Missouri, will take these suggestions and develop programs to meet these requests.

It is hoped that these efforts will contribute to the development of a continuous Postgraduate Education Training Program, in this state, with a lasting effect.

The Committee is also investigating the telephone dial access system employed by the University of Wisconsin Medical Center with a medical tape recording library.

The Committee expresses sincere thanks to the many physicians who have appeared on scientific postgraduate programs presented over the state during the past year.

John I. Matthews, Chairman
Peter G. Danis
J. F. McDonald
M. Pinson Neal
Richard W. Yore
E. D. Imes
Paul B. Anderson
W. Thomas Morgan, Jr.
Paul H. Rother
Charles P. McGinty
R. A. Slickman
Edward D. Kinsella
T. J. Fischer

REPORT OF THE PUBLICATION COMMITTEE

The 63rd volume of MISSOURI MEDICINE was completed with publication of the December 1966 issue. During the year 13 issues were printed and distributed. Eleven of the issues contained scientific papers, organizational reports and news, and items of interest to the profession. One issue contained the official proceedings of the 1966 Annual Session of the MSMA House of Delegates. The other issue was the annual Directory.

At year's end the Journal's total circulation was more than 4,600.

During the year 57 scientific papers, most of them by Missouri authors, were published. The Editors wish to express special appreciation to the administration and faculties of the University of Missouri Medical Center, St. Louis University and Washington University Schools of Medicine, and Ellis Fischel State Cancer Hospital for their valuable contributions.

Advertising revenues for 1966 total $42,450.17. This was an increase of $6,776.93 over the previous year. An increase in subscription rates also brought additional revenue into the Publication Fund. These two factors, despite increased operating expenses, combined to reduce the operating deficit by about $7,400.

The financial report for MISSOURI MEDICINE for 1966 is as follows:

INCOME		$53,785.67
Member Subscriptions	$11,106.00	
Non-member Subscriptions	229.50	
Advertising	42,450.17	
EXPENSES		$65,962.11
Salaries	$25,639.16	
Printing, Paper, etc.	32,338.84	
Postage	850.93	
Discount to Advertisers for Cash Payments	188.85	
Commissions to Advertising Bureau and Agencies	6,944.33	
EXCESS OF EXPENSES OVER INCOME		$12,176.44

In order to modernize and clarify provisions of the Association's By-Laws, the Committee recommends that the House of Delegates consider two amendments. Chapter VII, Section 2 now reads:

> "The Committee on Publication shall include the Editor or Acting Editor. The Committee shall be appointed by the Council annually. The Chairman shall be designated by the Council. It shall have referred to it all reports on scientific subjects and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. It shall arrange for the publication and distribution of the Journal."

We propose that this section be amended to read:

> "The Committee on Publication shall be appointed annually by the Council and shall be responsible for general publication and distribution policies of the Journal. The Editor of the Journal shall be designated by the Council and shall also serve as chairman of the Committee on Publication. The Editor shall be empowered to nominate an Editorial Board, consisting of members of the Association and subject to approval by the Council. The members of the Editorial Board will assist the Editor in soliciting, preparing and reviewing material for publication in the Journal."

Chapter II, Section 2 now reads:

> "All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary. Authors of papers read before this Association shall not cause them to be published elsewhere until after they have been published in its Journal.

We propose that this section be amended to read:

> "Any paper read before this Association shall be considered for publication in the Journal if the author so desires. Such papers may be given publication priority over regularly submitted papers but shall be subject to the same editorial review and selection policies."

Joseph V. Finnegan, Chairman
Richard H. Kiene
C. G. Stauffacher
R. O. Muether
Ben M. Bull

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION AND HOSPITALS

At its meeting in September the Council of the MSMA referred the matter of Temporary Licensure in Missouri for non-citizen physicians to this Committee for study and recommendations back to the Council. Missouri has a Temporary Licensure law for non-citizen physicians which is administered by the Missouri State Board of Registration for the Healing Arts. The law permits the Board to grant these licenses, under certain conditions, to non-citizen physicians to practice in state maintained hospitals or other hospitals approved by the Board. The Board is now issuing temporary licenses to non-citizen physicians in hospitals with approved training programs as well as to others serving in state maintained hospitals. A number of non-state maintained hospitals in the St. Louis metropolitan area, without approved training programs, have urgently requested the Board of Registration for the Healing Arts to issue temporary licenses to non-citizen physicians who are needed to help carry the heavy patient loads in the out-patient departments of these hospitals and to serve as staff physicians.

Your Committee studied this entire matter and made specific recommendations to the Council at its December 10-11 meeting for transmissal to the Board of Registration for the Healing Arts. The Committee's recommendations as amended and approved by the Council appear in the December 11-12, 1966, Council minutes, under Reports of Council Meetings 1966 in another section of this booklet of Official Reports to the House of Delegates.

The Report of the AMA Ad Hoc Committee on Education for Family Practice and the Report of the Citizens Commission on Graduate Medical Education (The Millis Report) to the AMA were presented at the 1966 AMA Interim Session in Las Vegas. The AMA House of Delegates is requesting State Medical Associations to study these reports and send suggestions and recommendations to the AMA which may be taken into consideration when the June 1967 AMA House of Delegates further considers these reports. The Council of the MSMA has requested our Committee to study these reports and present a critique to the Council which may be considered for transmissal to the AMA. All members of the Committee have been furnished with complete copies of the two important reports with a request that they study these and make note of any recommendations which may be considered by the full Committee.

Wm. A. Knight, Jr., Chairman
Vernon E. Wilson
Carl E. Lischer
Ralph R. Hall
Virgil Jeans

REPORT OF THE COMMITTEE ON CANCER

Activities of the Committee on Cancer for the year 1966 have centered primarily around its membership on the Inter-agency Council for Smoking and Health. Approval from the Council of the Missouri State Medical Association that the Committee on Cancer represent the Missouri State Medical Association on the Inter-agency Council was forthcoming at the last Missouri State Medical Association Council meeting in December of 1966.

In March of 1967, a National Workshop on Smoking and Health supported by the United States Public Health Service will be held in Kansas City on March 2, 3, 4. A planning meeting on December 13 was held in Kansas City, and the Committee on Cancer was represented by Dr. Neil Barry of that city.

E. J. Schewe, Jr., Chairman
John E. Lamy
Joseph L. Fisher
J. Martyn Schattyn
James R. McVay, Jr.
Charles Gulick
Jose M. Sala
G. Neil Berry

REPORT OF THE COMMITTEE ON MATERNAL WELFARE

The Committee on Maternal Welfare was requested by the Program Committee for the 1967 Annual Session of the Missouri State Medical Association to develop a panel or symposium as a part of the Annual Session scientific program. The Program Committee suggested as a title, "Family Planning" with the observation that this subject was one of considerable current interest.

Our Committee accepted the suggestion of the Program Committee and agreed to develop and present an hour and a half symposium on "Family Planning" on Friday afternoon, April 7, from 2:30 to 4:00 p.m.

The symposium participants are: (1) F. Bayard Carter, M.D., Durham, N. C., "Intra-Uterine Devices for Contraception." (2) Joseph M. Krebs, M.D., St. Louis, "Oral Ovulation Suppression and Rhythm Contraception." (3) Dan L. Berger, M.D., Shawnee Mission, Kansas, "Conventional Methods of Contraception."

The Committee's Annual Luncheon will be held at noon on Friday, April 7. The Maternal Mortality statistics for the past year for the State of Missouri will be presented at the luncheon session. In addition, two case reports on Maternal Deaths involving Anesthesia will be presented.

It is hoped that many members of the Association will attend both the Symposium and Luncheon session.

A. C. Trueblood, Chairman
James E. Keeler
Irwin T. Craig
H. C. Willumsen
William B. See
C. G. Stauffacher
Edwin M. Grim
MacDonald Bonebrake
E. E. Wadlow
Paul E. Kratz
E. G. Hamilton
Lyman D. Brown
Seymour Monat
Leonard A. Wall
Robert S. Brown

REPORT OF THE COMMITTEE ON INFANT AND CHILD CARE

A Full Health Course was discussed, including the joint meeting of November 20, 1966, with representatives of the Missouri State Department of Education. The letter from Hubert Wheeler, State Commissioner of Education, dated December 21, 1966, stated:

> "The recommendation for the new section of Health, Physical Education, and Safety to undertake (with the cooperation of the Missouri Medical Association) a study of the status and future needs of health in the public secondary schools has been approved by my office."

It was agreed that participating organizations in the study should include: (a) higher education; (b) public schools; (c) medical profession; (d) Missouri Division of Health. It was agreed that the study would require an estimated three years' time. Dr. Kinder appointed a Committee to work with the State Department of Education concerning the study of health education in the public school systems at the secondary level: Guy N. Magness, M.D., Missouri State Medical Association; Gerry Wiechmann, Ph.D., Missouri University; and Drury M. Love, M.D., Missouri Division of Health.

It was agreed by all present that actual classroom instruction in health should be provided by the faculty of the local public schools and that physicians should serve only as guest speakers upon invitation.

Following a discussion, the Committee approved suggestion for introduction of School Health News publication. Dr. Love stated that Mr. Herman Oligschlaeger had experience in such publications and introduced his associate, who explained the details. Example of such news service included Illinois State Medical Society publication and the "Dr. Sims Program." Sample copy was distributed. Facilities and funds are available in the Missouri Division of Health to publish such a news organ, but it was agreed that the *MSMA should serve as a cosponsor.* Council approval will be requested accordingly. Physicians will be asked to contribute articles, as well as other related health services. For example: dental care, safety agencies, etc. The motion approved by the Committee included sponsorship and participation in the news publication of: (a) Missouri Division of Health; (b) MSMA; (c) Missouri Department of Education; and (d) Missouri Academy of Pediatrics.

Dr. Magness announced that the St. Louis County Medical Society would sponsor a two-day conference on "Learning Disabilities of Children," April 28-29, 1967. Four noted speakers have been invited and tentatively, the program will be conducted in the Ladue Junior High School Building. A $10 fee will be charged and the program will include discussions on quackery. Dr. Magness will send notices, when available, to all members of the Infant and Child Care Committee.

Dr. Love distributed statistical reports for discussion on the new PKU Detection Law administered by the Missouri Division of Health. Discussion included certain problems regarding enforcement of this new Law and the fact that, in most instances, cases reported by hospitals are now lower compared to voluntary hospital reporting prior to the Law. Dr. Love called attention to certain hospitals emphasizing total number of births as compared to a much lower report for PKU test submitted. Assistance of the medical profession was asked and attention was called to the liability of physicians for informing the parents as required by Law. Copies of new regulations were distributed by Dr. Love, along with the pamphlet for distribution to parents, "What Every Newborn Baby's Parents Should Know." The Missouri Division of Health is planning to mail about 6,000 copies of the new regulations with a covering letter to all Missouri physicians and hospitals, alerting all responsible parties to the requirements of the Law. Discussion included the difficulties of strict enforcement of diet recommended for PKU patients and the estimated quarter million dollars per case for detection of the child. It was agreed, however, that the testing should continue while research is carried on to learn improved treatment methods. Dr. Love stated that blood tests are required on the newborn by Law, but that urine testing as a follow-up procedure, though recommended, is not legally required. Dr. Love discussed this procedure in detail. Council approval requested on: (1) "Rules and Regulations Governing a Test for PKU" and (2) "Feeding the Child with PKU"—Physicians Handbook.

Pilot program on physical fitness developed in Southwest Missouri State College was explained by Dr. Wayne McKinney and Dr. Harold Falls, under the direction of the Missouri Department of Education.

Discussion included screening of students prior to participation in the physical fitness program in order to determine ability to withstand certain tests required. After a detailed exchange of information between the medical profession and Dr. McKinney, it was agreed that a specific screening program be set up with emphasis on the recovery factor, prior to exhaustive exercises in the physical fitness program. The student age bracket considered is ages 7-12. Certain standards of testing vary for girl students as compared to boy students. Physicians present registered concern for certain strenuous exercises required by students if they have not had a physical examination by a physician in advance. It was agreed that the pilot program would be reviewed and that Dr. McKinney will report back to this Committee at a later date. It was moved, duly seconded, and approved by the Committee that support should be given to Dr. McKinney and his staff to develop and refine the pilot program on physical fitness, including examination of the student by a physician and the screening as described above.

Dr. Magness reported on Communicable Disease Center Program in Atlanta, Georgia, which he attended recently. Printed materials will be available at a later date. Emphasis, during the program, was on measles immunization and revision of Immunization Booklet. Included also was the program on booster shots for tetanus recommended every 6-10 years. Following a discussion it was suggested that an immunization workshop be scheduled for one evening or a full day at the state and county medical society level. Publicity on such a program could include printed materials and all medical journal publications. It was agreed that Dr. Drury Love would confer with Dr. Arme Belden, Missouri Division of Health, to determine existing policies for measles and tetanus. If such standards agree with the policies in the medical profession "Red Book," a publicity campaign could follow with education of the medical profession and the public on measles and tetanus. It was stated that state funds are available for such a program. Dr. Love suggested that the MSMA provide a covering letter to accompany the recommendations of the Missouri Division of Health which could state the recommended minimum standards.

Three Missouri physicians who have attended many MSMA Annual Sessions together. At this year's meeting, Dr. Rolla B. Wray of Nevada (left) and Dr. W. D. English of Cardwell (right) were re-elected as members of the Council. Dr. Doyle C. McCraw of Bolivar (center) was elected Chairman of the Council.

Materials were distributed on Title XIX of Public Law 89-97 including: (a) copy of the Law, regulations and coverage; (b) statement of the MSMA Council of September 24-25, 1966, listing priority implementation of the various sections of the Law; and (c) excerpts of the Governor's message at the opening of the 74th General Assembly, which included four of the phases of Title XIX as listed in the Council report. Time ran out before a discussion of Title XIX could be conducted.

Meeting adjourned at 3:45 p.m.

James A. Kinder, Chairman
E. J. Schwartz
James K. Mann
H. E. Petersen
Chester P. Lynxwiler
Guy N. Magness
Ray B. Lewis
James J. Pascoe
Barbara E. Russell
Richard D. Blim
C. Read Boles
Ben H. Koon
Ernest L. Glasscock
Willard B. Avery

REPORT OF THE COMMITTEE ON MENTAL HEALTH

During the past year, the Committee continued its discussions with the Missouri Psychological Association in an effort to draft a mutually agreeable plan for certifying or licensing psychologists. From these discussions there evolved the concept which has been referred to as the "umbrella plan." This proposal envisions the State Board of Registration for the Healing Arts as the agency ultimately responsible for control and regulation of such ancillary or paramedical groups as are not presently recognized by statute but who are seeking such recognition. With the Committee's plan, the paramedical groups would be authorized to establish their own registration, examining and licensing standards under a sub-board or committee made up of their own members. The sub-board or committee would be charged with handling all matters relating to its particular practice area, subject to final review and approval by the Board of Registration for the Healing Arts. The sub-board or committee would have voting representation on the Board of Registration when matters of interest to the sub-board or committee were under consideration.

This "umbrella" concept was approved by the MSMA Council, the State Board of Registration for the Healing Arts and the Missouri Association of Osteopathic Physicians and Surgeons. The Legislative Committee for the Psychological Association agreed to this idea, but when the proposal was presented to the full membership it was rejected.

The Committee recommends that the House of Delegates give formal approval to the "umbrella" principle and encourage its implementation through legislation.

The Committee has watched developments in the field of hallucinogenic drugs during the past year and agrees that some type of statutory regulation or control is indicated. Such control, however, should provide for continued research and investigation under recognized scientific standards.

The Committee has maintained close contact with the programs and developments under the State Division of Mental Diseases, and we have worked to improve our liaison with the Section of Mental Retardation.

In conclusion, the Committee recommends and urges that component medical societies and individual member-physicians take an active interest in the development and activities of mental health and mental retardation centers in their own communities.

Henry V. Guhleman, Chairman
Paul W. Hayes
James N. Haddock
Robert D. Brookes
D. R. Edwards
James B. Allison
Paul L. Barone
Edward T. Auer
Robert S. Terrill
Joseph B. Kendis
Marie Mowrer

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

At the 1966 Annual Session the House of Delegates approved a Council recommendation that a Committee on Specialty Medicine Groups be established as a standing committee of the Association.

To activate this action of the House, amendments to the By-Laws are necessary. The following two amendments are therefore submitted for action by the 1967 House of Delegates:

> Amend Chapter VII, Sec. 2, Page 8, By-Laws revision 1966, after "A Committee on Legislative Matters," by adding the following: 'A Committee on Inter-Specialty Medicine.'
>
> And, further amend Chapter VII, Sec. 2, Page 10, immediately before Sec. 3, by adding the following: "The Committee on Inter-Specialty Medicine shall be composed of one representative from the presently formed state-wide specialty groups listed herein, and others which may be formed in the future:
>
> Missouri Ophthalmological Society
> Missouri Pathological Society
> Missouri Academy of General Practice
> Missouri Radiological Society
> Missouri Society of Internal Medicine
> Missouri Surgical Society
> Missouri Society of Anesthesiology
> Missouri Academy of Psychiatry
> Missouri Chapter, American College of Chest Physicians

The President of Missouri State Medical Association shall appoint annually to this committee a representative from each group after consultation and recommendation by each group. This committee shall be charged with the responsibility of reviewing organizational problems with respect to scientific programs, socio-economic and legislative matters that affect their particular specialties, and other subjects of interest. Reports from this committee shall be made periodically to the Council as well as to the House of Delegates.

Kenneth C. Hollweg, Chairman
W. A. Bloom
Donald M. Dowell
R. O. Muether
James R. Meador

REPORT OF THE COMMITTEE ON CONTROL OF VENEREAL DISEASE

The activities of the Committee on Control of Venereal Disease have been primarily directed to expanding and examining the means of venereal disease education and information and the continued dissemination of information about this problem in our state. We have received wonderful cooperation from the Missouri State Medical Association. The State Division of Health has continued to be active, and Dr. Arthur Neilson has contributed an amazing individual effort. It has to be to their credit that the venereal disease rate in St. Louis dropped 37 per cent in one year. We have continued to have excellent cooperation from the Missouri Press Service and other news media.

Regarding our furthering the study of venereal disease education, we have had excellent cooperation from the University of Missouri, and in particular Dr. Joye Patterson and Mr. William Neser. With the cooperation of the State Division of Health, a detailed study will be made as follows:

1) Possible epidemiology of venereal disease, regarding socio-economic level, education level, neighborhood, age, and race.

2) Degree of venereal disease information in the above group.

3) A pilot study to determine present knowledge of health in the various educational and socio-economic levels, including parents and students, how they acquired the information and their interpretation of it.

4) Following this, selected groups will be given the information by several different media, and tests at-

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BAYER
ASPIRIN
CHILDREN
Genuine

Councilors Joseph L. Fisher of St. Joseph (left) and Gerald L. Miller of Kansas City (right) visit with MSMA President-Elect Hector W. Benoit, Jr. before a meeting of the House of Delegates. Dr. Fisher was elected Vice-Chairman of the Council at the 109th Annual Session.

tempted to determine which is the most effective and how this compares with our base studies.

5) A study is being considered on determining the methodology and the funds required for the training of teachers. Hopefully, a selective group of teachers would be followed up to determine the results of their training of students in their respective classes, as compared with students instructed by teachers not provided with venereal disease training.

It is felt that when this study is completed that we can have a clearcut guidepost as to the best methods for disseminating information and an accurate means of determining its results.

Edwin M. Powell, Chairman
E. A. Belden
A. W. Neilson
John M. Martin
T. E. McMillan
J. E. Bumgarner

REPORT OF THE COMMITTEE ON EYE HEALTH

The Committee on Eye Health was polled for approval of an Amblyopia Feasibility Field Research Study to be conducted by Dr. David Langerman of the Missouri Division of Health. Subsequent to Committee approval the Council, upon request of Dr. Langerman, approved in meeting December 10, 1966, the Ambylopia Program under the supervision of the MSMA Eye Health Committee.

Dr. Vernon B. Jackson of Fulton submitted copy of a program for an Eye Clinic at the Fulton State Mental Hospital. It was reported that, under the direction of Dr. Jackson, plans were made to expand this program to all the State Mental Hospitals in Missouri with the Department of Mental Diseases assuming the cost. The MSMA Council in meeting December 10, 1966, reviewed the program as submitted by Chairman of the Eye Health Committee and amended the report by adding the words "in-patient examinations only." Council accepted Dr. Jackson's program as amended, subject to the approval of Dr. Ulett, Director, Department of Mental Diseases.

The Committee Chairman reported to the Council December 10, 1966 on meetings with the Missouri Vision Test Section of the Department of Revenue, regarding revision of standards and forms covered by H.B. 135 enacted into law by the 73rd General Assembly in 1965. This law relates to vehicle driver's vision test required for state driver's license. Several rules and regulation revisions were discussed, which were implemented by authority of the Vision Test Section without any legislative amendment to the existing law. It was agreed that further proposed changes would be submitted to the Committee on Eye Health prior to official adoption by the Missouri Vision Test Section. MSMA Council so approved.

The Committee Chairman reported to the Council December 10, 1966 on developments to date regarding contact lens service. Dr. Pernoud explained that existing laws are being studied by our legal counsel pursuant to amendment. Legal suit has been filed by the Missouri Board of Optometry against a practicing optician in Kansas City, charging the defendant with practicing optometry without license in that he examined, prescribed and fitted contact lenses. MSMA representative has been subpoenaed as witness. The suit is now pending in Division 5 of the Circuit Court in Kansas City. Considering the circumstances, invitation extended by the Missouri Optometric Association to meet jointly has been deferred pending action on the above lawsuit.

Flavius G. Pernoud, Chairman
Paul C. Wolff
Paul M. Beck
John Buesseler
Dick Underwood
John R. Rufe
Wilbur H. Lewin
D. E. Eggleston
John D. Maddox
George Mandler
H. B. Stauffer
Robert Stewart
Truman B. Schertz

REPORT OF THE COMMITTEE ON DIABETES MELLITUS

During the past year various members of the Committee on Diabetes participated in two major diabetes detection studies.

The St. Louis Diabetes Association in the 1965-1966 Diabetes Detection Drive distributed over 173,000 Dreypaks. These were distributed by various Drug Stores, by a Mobile Unit, Churches, Schools, industry and by telephone requests. Of this large number distributed only 28,000 (16.2%) were returned for processing for the presence of glucose, and 857 (3.05%) were found positive. Four hundred forty-four persons with a positive Dreypak came for a free one and two-hours glucose tolerance test. Of these 187 (42.1%) were found to be compatible with a diagnosis of diabetes, and 92 (20%) were classified as probable diabetics.

In all the detection studies in Missouri, it is stressed that such a technique is used for detection and not to diagnose diabetes. The person must see his private physician for a definite diagnosis. Therefore, other diseases such as cancer, hypertension, heart disease, and tuberculosis are being discovered by the physician as these people seek medical care for the diagnosis and treatment of diabetes.

The Committee participated with the Missouri Division of Health, Saline County Medical Society, University of Missouri Medical Center, Missouri State Diabetes Association, the Saline County Public Health Nursing Unit in performing a county-wide, door to door type of diabetes detection survey.

This survey conducted in Saline County with a population of approximately 25,000 was performed in a manner similar to that employed at Sullivan, Missouri, in 1960, and in Reynolds County in 1963. About 12,000 persons participated in the survey, that is, they either answered a questionnaire and/or returned the St. Louis Dreypak for processing for the presence of glucose in the urine. Of the 12,000 persons contacted, 176 (1.5%), were found to be known diabetics.

With the information obtained from the questionnaires and from the results of the Dreypak tests, the participating members of the population were placed in six groups for statistical purposes:

1. Those with known diabetes.
2. Those with a positive Dreypak test.
3. Anyone who had been told in the past that they had glycosuria.
4. Mothers who had one or more babies whose birth weight was nine pounds or more.
5. Those who had a parent or parents with diabetes.
6. Anyone who was forty or more years of age who was twenty or more pounds overweight according to the Metropolitan Life Insurance Company's Table.

If anyone of the participating persons "fell" in the last five groups, they were invited to have a free one and two-hours glucose tolerance test. At the Saline County Survey 5,326 were invited, but only 1,537 (33%) came for the test as some of the persons went to their private physicians. Of the 1,537 glucose tolerance tests performed, 575 (37.4%) were found to be compatible with diabetes and 172 (11.12%) were classified as compatible with probable diabetes.

Such diabetic detection surveys do educate the community as to the importance of not only detecting diabetes but other diseases as well.

The Committee wishes to emphasize that similar surveys can and should be performed in other communities to help discover some 30,000 persons in the State of Missouri with undiagnosed diabetes. Therefore, we urge more physicians to become interested and active in detecting and treating diabetes by, either joining the Missouri State Diabetes Association and/or by forming local or community diabetic organizations for the education of the lay people about diabetes.

Harold K. Roberts, Chairman
Thomas W. Burns
John K. Caldwell
Lucien W. Ide
H. E. Oppenheimer
William H. Olmstead
Loren Broaddus
E. Lee McCorkle
Charles F. Wilson

REPORT OF THE COMMITTEE ON ANESTHESIOLOGY

There were no meetings of the Committee on Anesthesiology during the past year, but the Chairman and all members were active in the interest of anesthesiologist members of the Missouri State Medical Association. The Missouri Society of Anesthesiologists sponsored an excellent conference for its members and colleagues from adjoining states in May 1966 at Table Rock Lake.

It is gratifying to note the steady increase of qualified anesthesiologists in MSMA. The Committee is sponsoring a panel on "Management of the Unconscious Patient" at the 1967 MSMA Annual Session.

Walter W. Tillman, Jr., Chairman
E. Helen Hash
Kenneth K. Keown
Carl K. Ness
Edward O. Kraft
George R. Weeks
Robert B. Dodd
Edwin E. Bowe

REPORT OF THE COMMITTEE ON LABORATORY MEDICINE

The Committee on Laboratory Medicine has maintained an active interest during the past year in several developments relating to its area of professional concern. The Committee met on January 14, 1967 to formulate this annual report and these recommendations to the House of Delegates.

The State Division of Health is under pressure to license medical laboratories. No legislation had been drafted at the time this report was filed, but a meeting of interested parties was being contemplated to discuss the subject. Such licensing is being urged nationally by the United States Public Health Service, but the final decision still rests with the individual states. In those states where such a program has been implemented, the licensing standards and requirements generally parallel the standards which have been established under Public Law 89-97 (medicare), and the program is usually administered by the official state health agency. It is recommended that the House of Delegates authorize this Committee to confer with and assist the Director of Health in any action directed toward regulating or licensing medical laboratories.

The Committee also discussed the problems relating to the licensing of paramedical personnel, specifically, the medical technologists. This group poses a unique problem so far as licensing is concerned because its members are divided into categories based on their education, training and/or organizational affiliation. This probably would necessitate a classification system of some sort under any licensing or certifying program. Nevertheless, the Committee recommends that MSMA continue to work for the licensing of medical technologists under the State Board of Registration for the Healing Arts, as stipulated by the House of Delegates in 1966. The Committee also recommends that MSMA assist in developing broad enabling legislation which will permit the Board of Registration to carry out such a program.

Because of the resistence to abolishing the coroner system in Missouri and replacing it with a medical-examiner system, a compromise plan based on Kentucky law has been proposed. Under such a plan, coroners would retain their jurisdiction, but would be provided with assistance from the State Medical Examiner. In order to implement this plan without significant increased expenses, the State Medical Examiner would be authorized to utilize Division of Health laboratories for toxicology and tissue examination and departments of Forensic Medicine could be established at Missouri University facilities in Columbia, Kansas City and St. Louis. The Committee recommends that MSMA continue its efforts to encourage the passage of a medical-examiner law in Missouri, but authorize the Committee on Legislative Matters to support any logical compromise as a step toward an ultimate goal.

The Committee is concerned about recent federal regulations covering the operation of independent laboratories under the "medicare" program. The Committee feels that the regulations discriminate against pathologists in their role as consulting physicians performing laboratory work for referral patients. The objection is directed at Section 405.1301 (b), Subpart M, Conditions for Coverage of Services of Independent Laboratories, Part 405, Federal Health Insurance for the Aged (1965 ......), as published in the Federal Register, Volume 31, Number 243.

The Committee recommends that MSMA seek assistance from the American Medical Association in protesting and attempting to change this regulation and that the protest be communicated to members of the Missouri Congressional Delegation.

William R. McPhee, Chairman
James G. Bridgens
Vincent Perna
Henry C. Allen
Richard V. Riddell

REPORT OF THE COMMITTEE ON DISASTER MEDICAL CARE AND NATIONAL DEFENSE

The Committee met on November 27, 1966 in Jefferson City. Chairman reported acceptance of invitation from American Medical Association to provide a panel of speakers for Regional Conference on Disaster Medical Care in St. Louis, February 18-19, 1967 at the Colony Motor Hotel. Dr. George Watkins will serve as moderator and speakers include John T. Crowe, M.D., of Cape Girardeau, Missouri, Carroll P. Hungate, M.D., of Kansas City, Missouri, Mr. Donald D. O'Keane, Acting Director, Missouri Health Mobilization, of Jefferson City, Missouri. The Committee requested the MSMA Executive Office to write all secretaries of local county medical societies urging publicity and attendance at this Conference. Committee asked the MSMA office to submit a list to AMA for invitations to all state and local officials and organizations in the health field. List included also fire, police and all interested services.

Dr. Hungate reported on program he attended in Louisville, Kentucky, October 23-28, 1966, 15th Annual Conference, U. S. Civil Defense Council. This Council is an organization of city-county Civil Defense Directors. The report included slides on "The Emergency Medical Care in Belgium." Complete sets of program material were distributed to the Committee and submitted for publication in MISSOURI MEDICINE. Dr. Hungate reported also on tornado disaster which struck Topeka, Kansas.

Dr. Hungate submitted a list of suggestions for Committee action. Immediate action was taken by the Committee, with MSMA Council approval December 10, 1966, to write all secretaries of local county medical societies in Missouri, recommending that one meeting a year be devoted to Disaster Medical Care Planning, along with the notice of the Regional Conference in St. Louis, February 18-19. Such notice was mailed January 6, 1967.

During discussion by MSMA Council December 10 in approving the Committee report of meeting held on November 27, the Council referred to the Committee on Trauma for study, a suggestion by Dr. Robert Mayer that a statewide code for ambulance service be considered for submission to the Missouri General Assembly.

George L. Watkins, Chairman
Carl D. Siegel
Carroll P. Hungate
William F. Bell
B. L. Murphy
Curtis H. Lohr
R. Ned White
George E. Thoma
O. P. Hampton
J. S. Sanders
John L. Mothershead
Robert R. Donley

REPORT OF THE COMMITTEE ON PHYSICAL MEDICINE AND REHABILITATION

The Chairman of this Committee was invited by the Rehabilitation Committee of the American Medical Association to attend a program in Chicago on September 8 and 9, 1966, entitled "Rehabilitation Conference." As a result of this program the participants were charged with the duty of returning to their state and presenting a like-conference. The Chairman of this Committee polled the members of the Committee and found that 80 per cent of the Committee was in favor of attempting to provide such a conference in the State of Missouri, sponsored by the Missouri State Medical Association, Social Security Administration and the Office of Vocational Rehabilitation. This was also taken by the Chairman to the Council of the Missouri State Medical Association where approval to proceed with the plans was obtained. The Chairman of this Committee then contacted the office of Vocational Rehabilitation and the Social Security Administration at the state level and found it would be necessary to wait until after the first of July, 1967 before any funds would be available for such a program. This information was forwarded back to the Council of the Missouri State Medical Association with the suggestion from the Chairman of this Committee that such a program be investigated for the year 1967-68.

The Program Committee of the Missouri State Medical Association also requested the Physical Medicine and Re-

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habilitation Committee to prepare and present a program at the Annual Session in St. Louis on April 6-9, 1967. Such a program has been planned and is part of the program on April 8, 1967, entitled "'Stroke': The Practitioner's Role in Rehabilitation."

Edward B. Shires, Chairman
Earl P. Holt
F. D. Sundstrom
Lester E. Wolcott
John W. Deyton
Nicholas S. Pickard
James T. Leslie, Jr.

REPORT OF THE COMMITTEE ON PUBLIC SERVICE

The Committee on Public Service did not meet formally during the past year, although individual members conferred on matters of Committee interest. The Chairman attended the AMA's 1966 PR Institute and his report on the meeting was published in MISSOURI MEDICINE. As a result of informal activity and with the full knowledge and approval of a majority of the Committee, we offer the following report and recommendations.

Public service or public relations for any organization begins and ends at the "grass roots," the public service or public relations of its individual members. It has been demonstrated that if such individuals are well informed as to the principles, objectives and activities of their parent organization (be it a business firm, service club, church, or professional association), they are better equipped to implement effective public service or public relations programs and to create "good public image" for themselves and their organization.

With these thoughts in mind, the Public Service Committee proposes initiation of a continuing program, designed to inform individual member-physicians of the principles, policies, programs and objectives of the Missouri State Medical Association, its component medical societies and the American Medical Association. We believe that this program should have year-to-year continuity and should serve as the base for any additional one-time or short-range public service projects.

The Committee therefore, recommends that the Council be instructed to proceed with detailed planning and execution of the proposed program within such budgetary, personnel and time limitations as may exist.

It is suggested that the following specific activities be given serious consideration for implementation as part of the overall program:

1. An Annual Officers Conference. Such a conference would be used to instruct elected officers of the State Association and its component societies on their duties and responsibilities. It could also be used to inform them of the programs and activities of organized medicine, inspire them to more effective leadership and provide them with an opportunity to exchange ideas on the various socio-economic interests of the profession.

2. A regular feature in MISSOURI MEDICINE, the Association's official journal. This feature should contain reports and explanations of the structure, policies, programs, etc. of organized medicine, from the local level to the AMA.

3. The active utilization of MSMA Officers, Councilors, and Executive Staff personnel in "organizational" programs at local or councilor district meetings.

4. Any additional activities which the Council may deem helpful in making the individual physician aware of the numerous facets and problems of his profession.

It is customary for the Committee to report on public service expenditures made by MSMA each year, including fees paid to the Association's public relations counsel, even though such fees cover work done for other committees and in connection with other Association activities. Total expenditures for 1966 amounted to $10,238.45.

Doyle C. McCraw, Chairman
Byron M. Stuart
Hector W. Benoit, Jr.
Armand E. Brodeur
Fred L. Wommack

REPORT OF COMMITTEE ON LEGISLATIVE MATTERS

The Committee on Legislative Matters, in its first year of official existence, has been active in pursuing its general responsibilities and in carrying out the specific mandates of the 1966 House of Delegates.

By mid-year the MSMA Executive Office, under Committee direction, had established contact with the State Division of Welfare and had conducted preliminary discussions on the subject of implementing Title XIX in Missouri. On August 19 the Committee and members of the MSMA Executive Staff met with Mr. Proctor Carter, Director of the Division of Welfare, for a friendly and candid exchange of ideas concerning Title XIX. Subsequent to the meeting the Committee drafted a plan suggesting the order in which various Title XIX steps should be undertaken. This schedule of priority was approved by the Council and forwarded to Mr. Carter who presented it to the Governor. It appears from the Governor's message to the General Assembly and the Administration's legislative proposals that MSMA suggestions were given serious consideration.

In the continuing effort to establish a medical-legal examiner system in Missouri, the Committee met with other interested parties and agreed on modified approach to the subject. A new legislative proposal is being introduced in the General Assembly but, as in previous Assemblies, chances for its passage appear dim.

The Committee investigated the feasibility of sponsoring legislation to remove the danger of legal action against physicians for their individual or collective actions while serving as members of professional committees. Legal counsel advised that the Missouri Constitution virtually bars legislation of this type.

The MSMA Committee on Mental Health worked for nearly two years in an effort to reach agreement with the Missouri Psychological Association on a mutually acceptable plan for certifying or licensing psychologists. From a series of conferences emerged a plan for establishing a psychologist licensing and regulation board, but placing it under the State Board of Registration for the Healing Arts. It was noted that the psychologists and several other ancillary or paramedical groups could license their own practitioners and supervise their area of practice, subject only to formal approval of the Board of Healing Arts. It was suggested that the psychologists' board, or any other which might be involved, should be represented on the Board of Healing Arts when the latter was considering matters of interest to that particular paramedical group. The Psychological Association's legislative committee agreed that this was a logical and acceptable solution to a complex problem, but the Association rejected the plan.

Henry V. Guhleman, M.D., Chairman of the MSMA Mental Health Committee, and his committee members are to be commended for persisting in their discussions with the Psychologists even when there appeared to be no possibility of reaching agreement. The plan which evolved from their work, and which is briefly outlined above, has been approved by the MSMA Council. Your Committee recommends that the House of Delegates approve the general principle, i.e., the licensing and regulating of paramedical practitioners by their own board with its actions subject to final approval by the Board of Registration for the Healing Arts.

Finally, your Committee wishes to report that the MSMA Executive Staff, with full Committee knowledge, has established effective communication and liaison with members of the state legislature, key officials in the executive and administrative state offices, the Missouri Association of Osteopathic Physicians and Surgeons, and the State Board of Registration for the Healing Arts.

The 1967 session of the Missouri General Assembly is now in progress and the Committee working to promote good medical and health legislation and to defeat proposals which the profession considers potentially harmful.

John I. Matthews, Chairman
Byron M. Stuart
Hector Benoit, Jr.
David N. Kerr
Doyle C. McCraw
Stanley S. Peterson
J. L. Washburn

REPORT OF THE COMMITTEE ON ALCOHOLISM (SPECIAL)

Your Committee on Alcoholism took under consideration and discussed many items having to do with the disease, alcoholism, and the place occupied by the medical profession in combating it.

Functions of the Committee were discussed, and it was considered that we should deal with alcoholism in its entirety and not attempt to single out what could be done for our fellow physicians who are afflicted with the disease. It was thought that treatment of these individuals should be considered on the same basis as others suffering from the disease.

It should be called to the attention of the Missouri State Medical Association that considerable strides have been made in the area of alcoholism in Missouri during the past year. A new Director of a State Alcoholism Program, Dr. Ronald Catanzaro, has been appointed by Governor Hearnes, and a state program is being set up.

More than 250 physicians, their wives and guests gathered in the Khorassan Room at the Chase-Park Plaza Hotel in St. Louis for the 1967 Presidents' Banquet and to hear Senator Edward V. Long deliver the address of the evening.

The Committee offered its cooperation to Governor Hearnes and to Dr. Catanzaro in any way they could be of assistance. Representatives of the Council on Alcoholism from Kansas City and St. Louis met with the Committee and offered their assistance, also.

The Committee recommends that:

1) There should be a closer liaison with industry in setting up programs about alcoholism in industry.

2) Workshops on the treatment of the alcoholic should be offered to all physicians and paramedical personnel in the state. This could be incorporated into the program of the annual meeting if desired.

Among the guests of honor at the head table were (left to right) Dr. and Mrs. John W. Williams, newly-installed President of the MSMA Auxiliary; Congressman Durward G. Hall, M.D.; and Mrs. and Dr. Stanley S. Peterson. Doctor Peterson served as Speaker of the House of Delegates for the 109th Annual Session. Doctor Hall was honored by being elected to Honorary Membership in the Association.

3) We would like to meet with members of the Missouri State Bar Association and offer our views pertaining to state laws about alcoholism and in what ways they could be improved.

4) We would like a closer working relationship with the Missouri Hospital Association in an attempt to admit alcoholics to general hospitals under that diagnosis and not some assumed one as is so often done today.

5) We would also like to have a similar working relationship with insurance companies so that the disease, alcoholism, might be generally covered in most insurance policies as are other chronic diseases.

6) We feel that the public schools should teach more about alcohol and alcoholism. The Committee has offered to have representatives meet with those from the Department of Education regarding this and offered to aid them in working out a new program.

7) We finally suggest to the incoming President of the Missouri State Medical Association that the Committee on Alcoholism be continued so that further work in this field could be carried on during the coming year.

Joseph B. Kendis, Chairman
Max E. Teare
Evelyn Griffin
Tom R. Burcham, Jr.
Kathleen Smith

REPORT OF THE COMMITTEE ON NURSING AND PARAMEDICAL PERSONNEL (SPECIAL)

The Committee has established excellent and cordial collaborative relationships with the State Board of Nursing, the Missouri State Nurses' Association, the Missouri League for Nursing and the Missouri Hospital Association. The recent relocation of the Missouri State Medical Association offices has been of great help in this regard. The Committee especially wishes to fully express its appreciation for the able and enthusiastic services rendered it by the staff and, particularly, Mr. Thomas P. Fox, Executive Assistant of the Missouri State Medical Association. Without Mr. Fox's constant help and support, the Committee's activities would have been ineffective, if not impossible.

Problems which have created the present, and possibly future, severe shortage of professional nursing personnel are so complex and controversial that they fully occupied the concern of the Committee during the past year. Little attention could be paid to sub-professional nursing and other paramedical personnel problems. It is the hope of the Committee that these areas may be explored fully in the future.

The following findings of the Committee may be stated definitely at this time:

1. The need for more professional nurses will continue to grow with expansion of hospital facilities everywhere, opening of large numbers of nursing homes to accommodate more medicare beneficiaries, new construction and improvement through federal funds of mental health units, home nursing care provided for under medicare, etc.

2. The shortage of qualified nursing educators acceptable by National League for Nursing standards seriously hampers expansion of existing and opening of new nurse training facilities.

3. An appreciable loss of Missouri trained nursing personnel by migration to other states is not compensated by a lesser immigration into the state. Salary scales in Missouri may be a factor. Several states manage to attract our nurses with salaries higher than prevalent here.

4. R.N. salaries in general are unattractive. Frequently, they are considerably below union scales for even unskilled labor and are insufficient to entice enough trained nurses who retire (presumably on a temporary basis to have and raise a family) to return to professional nursing later. More capable people would be interested in nursing careers if the financial rewards were more attractive.

5. The average professional life span of the trained nurse (before and after child bearing) ranges only between six and ten years. Only very few nurses remain in the profession with lifetime career goals.

6. Recruitment for schools of nursing is primarily from recent female high school graduates. The few schools which have tried to enroll more women over 30 years of age (many of whom have already raised a family or are less likely to have plans for marriage) have been well pleased with their greater reliability and stabilizing influence on younger students, and they expect more members of this group to make lifetime careers in nursing.

7. Only a very few men are in training as professional nurses in Missouri, although the field would have excellent career possibilities for them, particularly in such areas as operating room and emergency room technology, intensive care and coronary care units, artificial kidney units, GU nursing (all requiring a considerable degree of mechanical aptitude), psychiatric nursing and administrative nursing. Many schools of nursing are reluctant to accept or lack facilities to admit male students. Many men undoubtedly are hesitant to enter a presently totally-female dominated career area. If more male faculty could be recruited and if the medical schools in the state

might even start schools of nursing primarily geared to male students, a valuable new resource of career nurses with a long professional life span might become available. The performance of corpsmen in the Armed Forces conclusively demonstrates male fitness in this field.

8. Nursing education presents a house divided. In its official stand, the National League for Nursing favors the centering of all nursing education in four-year (baccalaureate) and two-year (associate degree) institutions, all within the academic community. The hospital schools of nursing that are still producing over three-quarters of all registered nurses are facing a gradual phasing out under these plans. In the long run, it seems that the only solution to satisfy all parties would be a link up of all hospital schools with local collegiate institutions in which the graduates will obtain approved college credits for the time spent in training and, probably, a degree during or after completion of their training. It is the feeling of this Committee that we have to cooperate with all factions involved in this controversy and, therefore, it would be wise not to impair our usefulness by taking sides at this time. However, we wish to promote a strengthening of all schools and are, therefore, anxious to endorse any measure which will also strengthen and preserve the hospital schools.

9. There exists a regrettable lack of cohesiveness and communication among the schools of nursing in the state as is best shown by the fact that no clearing house exists whereby applicants to schools with an overabundance of candidates can be directed to schools lacking sufficient numbers of suitable applicants. At the invitation of our Committee and with the concurrence of the Council of the MSMA, the Auxiliary President, Mrs. Wilda Stacey, has graciously offered the cooperation of her organization in the effective operation of such a clearing house by the state offices of the Missouri State Medical Association as well as active participation of the Auxiliary in recruiting drives, etc. She has designated Mrs. Mary Bumgarner, R.N., of Columbia, Missouri, as her personal representative to the state office for this purpose. It is hoped that this clearing house will be functioning in time to be of assistance to the class enrolling in 1967.

In the long run, only active recruiting, more dissemination of information about health careers and establishment of several new training facilities, as well as enlargement of present facilities, can improve prospects for adequate nursing personnel in coming years. Availability of adequate numbers of nurse educators will be of critical importance.

The Committee recommends:

1. That the House of Delegates authorizes continued operation of the Committee as a special Committee and give serious consideration to establishing the Committee on Nursing and Paramedical Personnel as a standing Committee.

2. That the House approves expenditures as necessary to be furnished to the office of the MSMA for purchase of needed recruiting literature for distribution by the respective county medical society auxiliaries and for such operations by the state auxiliary and the personal representative of its president as are required to operate the clearing house to be located at the Missouri State Medical Association offices.

3. That the MSMA goes on record favoring a substantial improvement of the pay scales for professional nurses commensurate to their professional status in concurrence with actions by the AMA House of Delegates taken in 1966.

4. That the MSMA goes on record favoring increased efforts by the schools of nursing to attract larger numbers of qualified men into professional nursing; that the leadership and example of the University of Missouri, Washington University and St. Louis University in this effort are particularly needed and the personal attention of the Deans of the respective medical centers be specifically invited to this problem by the MSMA.

5. That the House of Delegates encourages establishment of more nursing education facilities in the state and requests the Governor of Missouri to direct the specific attention of all state supported colleges not now engaged in nursing education to this urgent need.

John H. Walters, Chairman
Manning E. Grimes
Joseph Cope
Angelo Lapi
A. J. Signorelli

REPORT OF THE COMMITTEE ON THE STUDY OF CARDIAC DISEASE (SPECIAL)

The Committee on Study of Cardiac Disease during the past year recommended that the Council of the Missouri State Medical Association approve the proposed program of intensified educational training program in the area of cardiopulmonary resuscitation to hospital nurses, firemen, druggists and rescue squads as planned by the Missouri Heart Association. The Council subsequently approved this recommendation. No other business was transacted.

James G. Janney, Jr., Chairman
Earl L. Loyd
R. E. Stufflebaum
William J. Shaw, Sr.
Jack M. Martt
W. L. Mundy
William J. Gillespie
Caryl A. Potter, Jr.
F. J. Biggs
Joseph C. Edwards
J. Tenbrook King

(Left to right) Councilor Robert A. Mayer of St. Louis County joins Treasurer Max S. Franklin, President-Elect David M. Kerr and Councilor Walter T. Gunn of St. Louis for a bit of humor, relaxation and "congratulations" following the 1967 election of officers.

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A steroid-nutritional compound (Mediatric) was
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used by degenerative changes of aging.... This
erapy resulted in improvement of 75 per cent of the
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cNeill, A. J.: Clin. Med. *8*:518 (Mar.) 1961.

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ion of response predictable. Periodic
aminations and laboratory studies of
rnicious anemia patients are essential
d recommended.

E EFFECTS: In addition to withdrawal bleeding, breast tenderness or hirsutism may occur.

SUGGESTED DOSAGES: **Male and female:** 1 Tablet or Capsule, or 3 teaspoonfuls Liquid, daily or as required.

In the female: To avoid continuous stimulation of breast and uterus, cyclic therapy is recommended (3 week regimen with 1 week rest period—Withdrawal bleeding may occur during this 1 week rest period).

In the male: A careful check should be made on the status of the prostate gland when therapy is given for protracted intervals.

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Methamphetamine HCl	1.0 mg.	1.0 mg.
Cyanocobalamin	2.5 mcg.	1.5 mcg.
Intrinsic factor concentrate	8.0 mg.	–
Thiamine HCl	–	5.0 mg.
Thiamine mononitrate	10.0 mg.	–
Riboflavin	5.0 mg.	–
Niacinamide	50.0 mg.	–
Pyridoxine HCl	3.0 mg.	–
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Another group of honored guests at the head table. (Left to right) President-Elect David N. Kerr and Mrs. Kerr with Mrs. and Dr. Walter T. Gunn.

REPORT OF THE COMMITTEE ON TUBERCULOSIS (SPECIAL)

The Committee on Tuberculosis has concerned itself with the need for education of physicians, and of the public in general, regarding problems of tuberculosis care. It has started to study carefully a policy recommended by the Public Health and Welfare Committee of the Jackson County Medical Society, which is as follows: "It is urged that where the community has the resources and capabilities for the care of patients with tuberculosis, that this care be undertaken within the community hospitals nearest the home of the patients. It is urged that the outpatient follow-up, which now constitutes the largest segment of treatment time, also be carried out within the home community of the patient."

The Committee members are aware of the fact that serious consideration must be given to the separate and variable needs of patients in the rural areas, as compared to patients in the urban areas, based on individual needs. Careful study of the present status of patients with active pulmonary tuberculosis in the Sanatoria in urban St. Louis and Kansas City areas, and also in the rural area of Mount Vernon, the procedure for financing care and the equitable division of state funds for the purpose, are imperative to adequate future care and control of tuberculosis in Missouri.

The Committee is also working on a Proposed Guide for Physicians—Tuberculosis Care—submitted originally by Committee member, Dr. Sheldon Beecher. This guide, it is hoped, will be offered for publication to Missouri physicians and Missouri health workers.

Florence E. MacInnis, Chairman
Charles A. Brasher
Judson I. Chalkley
Sheldon B. Beecher
John W. Polk
William A. Werner
Walter C. Gray
Joseph L. Lucido
Paul Murphy

THE FOLLOWING COMMITTEES . . .

Had no assignments or meetings during the past year and have no formal reports to make to the House of Delegates at this time. The Chairmen and many members of these committees maintained an active interest in the area of their committee responsibility, represented the Association at professional meetings and conferences, and assisted in arranging programs for both medical and lay groups.

MEDICAL DEFENSE
MEDICAL ECONOMICS
TRAUMA
AGING
RADIOLOGY AND IONIZING RADIATION
INDUSTRIAL HEALTH (SPECIAL)
MEDICAL-LEGAL (SPECIAL)
RURAL MEDICAL SERVICE (SPECIAL)

The Speaker noted that minutes of the Council meetings during the past year and Council recommendations were published in the handbook. He referred various matters from the Council proceedings to appropriate reference committees.

THE COUNCIL

Meeting of March 30, 1966

Byron M. Stuart, M.D., President of MSMA called the meeting to order. Those present were: Drs. Stuart; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; David N. Kerr, St. Louis; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Hector W. Benoit, Kansas City; Gerald L. Miller, Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Walter T. Gunn, St. Louis; John I. Matthews, Jefferson City; Paul R. Whitener, St. Louis; William C. Allen, Columbia; Messrs. Gary Schnedler, Springfield; Lemoine Skinner, Jr., Ray McIntyre, Tom R. O'Brien and Allen Smith, St. Louis.

Dr. Stuart introduced Dr. Gerald L. Miller, the new Councilor from the 7th District, to fill the expired term of Dr. Benoit, President-elect of MSMA. He reported that Drs. Fisher, Kerr, Cope and Stricker were re-elected Councilors from the 1st, 3rd, 5th and 9th Districts respectively.

Dr. Kerr was nominated as Chairman of the Council and on motion was elected by acclamation. Dr. Kerr took over as presiding officer. Dr. McCraw was nominated as Vice-Chairman of the Council and on motion was elected by acclamation. Dr. John Matthews was nominated as Secretary and on motion was elected by acclamation. Dr. Walter Gunn was nominated Treasurer and on motion was elected by acclamation.

Dr. Kerr called attention to the Final Report of the Special Committee of the Council to study the location of the Executive Office which was presented to the final session of the House of Delegates on Wednesday morning and was approved. He referred to Paragraph IV of the report which recommended that the Executive Office of MSMA be moved to Jefferson City and that this move should be implemented as soon as possible, preferably prior to September 1, 1966. After discussion, on motion of Dr. Whitener, duly seconded, it was agreed that Ray McIntyre be authorized to make a preliminary survey of available office space in Jefferson City and that a committee be authorized to make appropriate recommendations to the Council. It was further agreed that Drs. Stuart, Kerr, Matthews and McCraw would serve on this committee and work with Mr. McIntyre. Discussion followed regarding employment of new office personnel that would be needed. On motion of Dr. Fisher, duly seconded, it was agreed that Mr. McIntyre be authorized to replace the bookkeeper and any other personnel needed.

Dr. Cope reported that he had visited the exhibits and thanked the exhibitors for coming. He also reported that a special complaint was received from one exhibitor. It was suggested that this company make a formal complaint in writing which would then be presented to the Postgraduate Committee for consideration.

Mr. O'Brien presented material which had just arrived by mail regarding the changes in the Employees Pension Program which had been approved by the Council some time back, to take effect by April 1. On motion of Dr. Whitener, duly seconded, it was agreed that Mr. O'Brien be authorized to get the required signatures to implement the changes.

Dr. Matthews reported that 627 physicians had registered, and that the total registration was 1,237 for the 1966 Annual Session.

It was agreed that the next meeting of the Council would be held May 7, 8, 1966 at the Chase Hotel, St. Louis.

Meeting of May 7, 8, 1966

David N. Kerr, M.D., St. Louis, Chairman, called the meeting to order. Those present were: Drs. Kerr; Lysle M. Bach, Hannibal; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Byron M. Stuart, Boonville; Hector W. Benoit, Jr., Kansas City; Paul R. Whitener, St. Louis County; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Joseph V. Finnegan, St. Louis; Arthur W. Neilson, St. Louis; J. Loren Washburn, Versailles; Vernon E. Wilson, Columbia; R. O. Muether, St. Louis; John W. Berry, St. Louis; Robert Koch, St. Louis County; Messrs. John W. Noble, Kennett; E. H. Borman, General American Life Insurance Company, St. Louis; Hollister Smith, St. Louis; Edgar Mothershead, St. Louis County; Gary Schnedler, Springfield; James Soward, Kansas City; Jordan Singleton, Thomas P. Fox, Allen D. Smith, Ray McIntyre, St. Louis. Sunday: Drs. James L. O'Leary, Washington University School of Medicine; and Donald W. Bussmann, St. Louis University School of Medicine.

Dr. Kerr asked for approval of the Minutes of the Council meetings of March 27 and March 30, which had been distributed in the usual manner. On motion of Dr. Whitener, duly seconded, the minutes were approved.

Mr. McIntyre reported that checks had been received from AMA-ERF for presentation to the three Missouri medical schools. Dr. Kerr presented the checks to the Deans of the three medical schools at a luncheon on April 20. St. Louis University School of Medicine received a check in the amount of $17,279; Washington University School of Medicine received $14,533; and the University of Missouri School of Medicine received $5,672. Mr. McIntyre reported that there was a rumor to the effect that AMA was planning on eliminating these unrestricted grants. He stated that a letter had been written to Dr. Blasingame at the AMA to find out whether or not the rumor was true, but up to the present time, no reply had been received.

The Executive Secretary reported on a letter received from the Student American Medical Association requesting renewal of our sustaining membership for 1966 in the amount of $100.00. On motion of Dr. Whitener, duly seconded, it was agreed to continue our sustaining membership and a check to be sent in the amount of $100.

Mr. McIntyre reported that a check had been received from the Larson Estate in the amount of $5,000 for the Missouri State Medical Foundation and that other gifts, one in the amount of $750 from Knight Drug Company, St. Louis and $275 from four Drug stores in Boonville, had also recently been received for the Foundation.

He also reported that a conference with Internal Revenue Service had been set for May 5 at the District Office in St. Louis, and that because of Mr. O'Brien's illness, our legal counsel had asked for postponement for from four to six weeks. He stated that the date of June 15 has now been set for the Conference. A question was asked as to whether or not it was necessary to file both tax Form 990 and Form 990-T. Legal counsel advised that if Form 990 was filed, it should be sufficient, however, he explained no harm could come from filing Form 990-T also, with a short explanation. After discussion, on motion of Dr. Wray, duly seconded, it was agreed to go ahead and file both forms with a short explanation on Form 990-T.

Mr. McIntyre reported that he had attended the Legal Conference of the AMA held in Chicago in April, along with Mr. Noble. Mr. Noble reported that it was a good meeting in that various medical society legal counselors got together to discuss legal problems peculiar to medical society activities. He stated there were discussion of problems on Medicare, civil rights legislation and their effects on medical practice. He stated that more malpractice cases are being filed than ever before, and that an important thing for the doctor was the keeping of good medical records in regard to the handling of each particular case.

Mr. McIntyre reported that the Chairman of MMPAC had requested an editorial be published in MISSOURI MEDICINE along with an application blank to be sent in for MMPAC memberships. It was suggested that a paid advertisement could be inserted in the Journal in lieu of an editorial. After considerable discussion, on motion of Dr. Whitener, duly seconded, it was agreed that a paid advertisement be placed in the Journal and then recommend to the County Society bulletins that they run a Letter to the Editor calling attention to the ad in the Journal.

The question of joint billing by the State Association to include MMPAC dues was brought up, it being pointed out that the insert included along with last year's billing brought very little results. It was suggested that the 1967 bills include County Society dues, State dues, AMA and MMPAC voluntary dues, with one check to include everything. After discussion, on motion of Dr. Benoit, duly seconded, it was agreed to have the Executive Secretary investigate the method of billing that has been employed by other state medical associations and through the AMA find out how other organizations do this and empower the Executive Committee to make a decision in the matter. Mr. Noble stated that he had considerable material compiled on this and had done research on it, and that he would furnish this information to the Executive Committee.

Dr. Kerr again called attention to the AMA-ERF donations and the possibility of their being discontinued as unrestricted gifts to the three medical schools, and requested that our AMA delegates be instructed to present a strong dissent from this stand at the June meeting of the AMA. After discussion, on motion of Dr. Whitener, duly seconded, it was agreed that our AMA Delegates be instructed to introduce a resolution to keep the money for the medical schools unearmarked, providing that the information from the AMA indicates such gifts are going to be curtailed.

Dr. Gunn presented the Treasurer's Report, giving the financial status of the Association as of April 30, 1966, copies of which were distributed to the Councilors and Officers. He stated that the Association was operating within its budget. On motion of Dr. Benoit, duly seconded, the report was accepted and approved.

Dr. Kerr called attention to the resolution re: Paramedical Personnel which was referred to the Council by the House of Delegates for further consideration and to the Legislative Committee for implementation, if the Council deemed it advisable. After discussion, on motion of Dr. Gunn, it was agreed that this resolution be referred to the Legislative Committee for study and implementation.

Mr. Allen Smith reported that he is now registered as a lobbyist for the MSMA, in accord with the new "Conflict of Interest" law. He reported that Dr. Ulett's mental health budget was approved with a 35% increase, and that Mr. Jack Stapleton, President of the Mental Health Association, had expressed appreciation for MSMA support. He reported that S.B. 5, relating to Home Health Services, died in committee; S.B. 4, which authorizes the state to pay certain "medicare deductibles" was passed with MSMA support. Mr. Smith also reported that Senator Kinney had fallen and broken his hip and was in St. Mary's Hospital in Jefferson City and suggested the following resolution be presented to him:

> "*Be It Known to All Persons:*
>
> That on this 7th day of May, 1966, the Council of the Missouri State Medical Association, meeting in formal session, has by unanimous action adopted the following. . .
>
> RESOLUTION
>
> *Whereas,* Missouri State Senator Michael Kinney has served the State and the People of Missouri for 53 years as a faithful and dedicated legislative representative; and
>
> *Whereas,* During that time he has maintained a continuing and tireless interest in the State's problems of physical and mental health; and
>
> *Whereas,* He has been a willing and sage counselor to individual physicians and to the Missouri State Medical Association in shaping legislation designed to solve those medical problems; and
>
> *Whereas,* Because of his busy schedule, constant movement and natural modesty he has never given the medical profession an opportunity to properly express its appreciation for his outstanding work; and
>
> *Whereas,* At the present time he is temporarily in no position to resist such an expression of Appreciation; be it therefore
>
> **Resolved,** That the Missouri State Medical Association take advantage of Senator Michael Kinney while he is temporarily immobilized and express deep and sincere appreciation for his long concern with the health problems of the State of Missouri and his constructive legislative efforts toward solving those problems; and be it further
>
> **Resolved,** That this Association and the physicians it represents do extend to Senator Michael Kinney best wishes for a speedy and complete recovery."

On motion of Dr. Wray, duly seconded, the resolution was approved for presentation to Senator Kinney.

Dr. Kerr introduced Mr. E. H. Borman, representative

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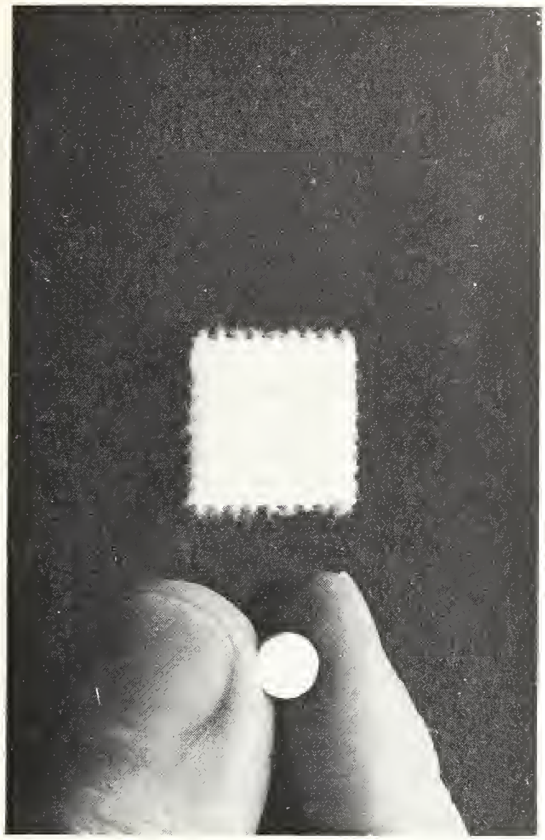
of General American Life Insurance Company, the carrier designated to handle Part B of P.L. 89-97, Medicare, for some 85 Missouri Counties. Mr. Borman gave a brief explanation of the overall workings of General American Life Insurance Company stating that they handle many group health insurance programs and are heavily involved in the health insurance industry. He said they were very pleased to have been designated the fiscal intermediary for the Medicare program and felt sure they could handle the job. He stated that his particular function in regards to Medicare was in the Medicare Relations area and that a letter had been sent to the president of each county medical society in their area expressing willingness to meet with the county medical societies to discuss problems and procedures of Medicare. He mentioned that he had had contact with specialty groups primarily in the St. Louis area and had been invited to appear in the Springfield area. He further explained the mechanisms of claim filing; usual and customary fees; development of review mechanisms, etc. He also stated that General American needs help in a number of areas, primarily in the Review Committee mechanism. Mr. Borman also mentioned that a Medicare Manual for physicians or a "Physician's Kit" will be prepared by the government to be sent out to each physician in the area, and that every beneficiary will receive a supply of forms. A short question and answer period followed his formal remarks.

Dr. Kerr reviewed the outline of actions of the House of Delegates which was available to all present. A number of items were referred to the Council for disposition. Dr. Bach called attention to Resolution #13 which called for dissemination to all members of MSMA and to the "State Hospital Council" the resolution relating to composition of utilization review committees and the right of a committee member to be paid. Discussion followed as to whether or not the resolution should be sent to the membership in a letter or published in MISSOURI MEDICINE. After discussion, it was agreed that the matter should be left to the Managing Editor to place this information in MISSOURI MEDICINE when appropriate.

Mr. McIntyre reviewed other items that had been referred to the Council and gave the disposition of each item with the approval of the Council.

Dr. Neilson called attention to the AMA Dues increase to be effective January 1, 1967, which was recommended by the AMA Board of Trustees at the December 1965 AMA Session. This recommendation will come before the AMA House of Delegates for final action at the June, 1966 session. Dr. Neilson mentioned that several states were opposed to the $25 increase and that inquiries had been sent to other states seeking their opinion. On motion of Dr. Stuart, duly seconded, it was agreed to instruct our AMA Delegates to go along with the $25 a year dues increase, if they feel such is justified, and if the majority of the states are in agreement. One suggestion to our Delegates was the possibility of making this a $15 assessment to replace reserves which were reduced during the last 24 months in educational programs regarding Medicare and other legislation, and a $10 dues increase to cover increased cost of current operations and for programs to maintain the leadership demanded of the AMA by its members and the public.

Dr. Whitener suggested that other delegates, such as Dr. Oscar Hampton on Section on Military Medicine and Dr. Wendell Scott, Section on Radiology, and other Missouri delegates from the various specialty fields, be invited to attend Council meetings.



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Dr. Kerr reported for the committee who investigated various buildings and areas in Jefferson City for a suitable office location for the Headquarters office. Dr. Kerr gave a résumé of the various possibilities, going into detail as to rent, utilities, space, etc. After discussion, it was decided to table any motions or discussions until Sunday, so that each one would have time to give the matter more thought.

Another group of honored guests at the Presidents' Banquet. (Left to right) Dr. Max S. Franklin, Treasurer, and Mrs. Franklin and Dr. and Mrs. Fred L. Wommack of Crane.

Discussion followed as to the possibility of microfilming some of the records to reduce the amount of storage space needed. On motion of Dr. Gunn, duly seconded, it was agreed that the Executive Secretary look into the possibility of microfilming some of the records.

Dr. Kerr reviewed the resolution presented to the House of Delegates which was not adopted, but a substitute resolution was adopted by the House as follows: "**Resolved**, that the prevailing fee concept be considered further by the Council before definitive action is taken."

Dr. Muether presented information on the "prevailing fee" concept stating that Kansas is working on this program; that Delaware and Kentucky have a program in effect in certain areas; Pennsylvania initiated the program at the request of U. S. Steel; Minnesota has not approved the program as yet; Texas is working on it and Maryland is studying the plan. He stated that Blue Shield would like to develop a survey with cooperation from medical societies to secure information on prevailing fees for study of possible additional Blue Shield programs. After discussion, on motion of Dr. English, duly seconded, it was agreed that the Missouri State Medical Association approve the Missouri Medical Service proposal that a study, including a survey of physicians, be made to obtain information pertinent to the "prevailing fee" concept, and that the Association cooperate in this proposal. It is understood that Missouri Medical Service will return to the Council for additional discussion prior to any effort to implement such a plan.

Drs. John Berry and Robert Koch of the Missouri Society of Internal Medicine were present to discuss the views of that Society on the prevailing versus usual and customary fee concept.

Dr. Kerr presented a letter of resignation received from Dr. Henry Allen, chairman of the Medical Advisory Committee to the Selective Service System for the State of Missouri, to become effective July 1, 1966, and requesting the Council to consider recommending a replacement for this job. After discussion, on motion of Dr. Matthews, duly seconded, it was agreed to request Dr. Allen to reconsider his resignation during the present crisis, and to remain on duty for a year with the proviso that a deputy be appointed to work with him for six months, and thereafter remain on the job.

Pursuant to action by the House of Delegates, Dr. Stuart appointed the following new committees:

Standing Committee on Legislative Matters, to consist of five regular members and two associate members: Drs. John I. Matthews, Jefferson City, Chairman; Hector Benoit, Jr., Kansas City; Byron M. Stuart, Boonville; Doyle C. McCraw, Bolivar; David N. Kerr, St. Louis; Associate Members: J. Loren Washburn, Versailles; and Stanley S. Peterson, Springfield.

Special Committee on Specialty Medicine Groups—1 year only; Dr. Stuart announced that this committee would be appointed after the presidents of the various specialty groups involved were contacted and invited to meet to accomplish two things; (1) decide what type of committee they want, i.e., special or standing committee; (2) to find out just what their purpose is to be. It was pointed out that only State specialty groups are to be contacted.

Special Committee to be known as Medico-Legal Committee to work with a similar committee of the Missouri Bar Association: Drs. Leonard T. Furlow, St. Louis, Chairman; Charles B. Wheeler, Kansas City; Lysle M. Bach, Hannibal; Frederick J. McCoy, Kansas City; Daniel L. Yancey, Springfield; John J. Modlin, Columbia; and Lee T. Ford, Jr., St. Louis.

Special Committee on Nursing and Paramedical Personnel: Drs. John H. Walters, Columbia, Chairman; Manning E. Grimes, St. Joseph; Joseph Cope, Lexington; Angelo Lapi, Kansas City; A. J. Signorelli, St. Louis.

Special Committee on Alcoholism: Drs. Joseph Kendis, St. Louis, Chairman; Max Teare, Kansas City; Evelyn Griffin, Buffalo; George H. Lawrence, St. Louis; Tom R. Burcham, Jr., Farmington.

The matter of the location of the Headquarters Office in Jefferson City was again brought up on Sunday for discussion and final action. After discussion, the majority of the Council favored taking the location in the Medical Arts Building, 515 East High Street, Jefferson City, for the Headquarters Office, for at least two years.

Mr. McIntyre pointed out that since the 1966 Budget was approved no funds had been allocated to finance the moving of the office and requested that adequate funds be made available for leasing of office space, employment and training of new personnel, moving of office equipment and household belongings of office personnel and problems pertaining thereto. On motion of Dr. Gunn, duly seconded, it was moved that to implement the House of Delegates directive to move the MSMA office to Jefferson City, the Council authorize the Treasurer of MSMA to expend the necessary funds to carry out this directive. This authorization will include, among other items, expense of moving the office files, furniture, office materials, etc., household furniture and belongings of all employees moving to Jefferson City, purchase of needed equipment and furnishings for new office, expense of securing and maintaining an Association active membership in the Jefferson City Country Club.

Dr. Whitener, a member of the Advisory Committee to the Woman's Auxiliary, recommended that unified billing for the Woman's Auxiliary and the Medical Society dues be considered as a possibility in the future. In discussion it was brought out that this could cause administrative problems in view of the various categories of membership in the Auxiliary. On motion of Dr. Whitener, duly seconded, it was agreed that this matter be referred to the Constitution and By-Laws Committee for study.

Mr. McIntyre presented a letter received from Mr.

Gail Bank, Executive Director, Continuing Medical Education, University of Missouri School of Medicine, requesting the Association to cooperate in a tentative proposal under Title I, Higher Education Act, called "Community Health Planning." After discussion, on motion of Dr. Benoit, it was agreed that this tentative proposal relative to the Higher Education Act be endorsed by a letter to Mr. Gail Bank indicating that this proposal is endorsed with the limitation that it be restricted to teaching and research under the aegis of the University of Missouri School of Medicine and further, where feasible, that its activities be correlated with the actions of the Governor's Advisory Council on Heart Disease, Cancer and Stroke.

Dr. Matthews reported on a meeting of the Committee on Scientific and Postgraduate Work which met at the Chase Hotel on May 1, 1966. The official minutes are on file in the Association office. He stated the Committee met to review the past 108th Annual Session, and to plan for the 109th Annual Session which will be held April 6-9, 1967 at the Chase Hotel in St. Louis. Attention was called to the change in scheduling wherein the convention will begin on Thursday and end on Sunday. All hourly schedules will generally follow previous year's program.

Dr. Matthews referred to a meeting on March 25, attended by the Deans of the three medical schools and representatives of the Scientific and Postgraduate Work Committee and stated that attention was concentrated on developing a Continuous Postgraduate Education Training Program. He stated that each medical school would appoint a representative to work with the MSMA committee, and that the program would be based on needs and wants of the doctors in the respective local areas. He suggested that three steps should be taken to implement the Continuous Postgraduate Training Program as follows: (1) By June 1, 1966 each Committee member would appoint a committee in his Councilor District and send the names to the MSMA office; (2) prepare, as quickly as possible, a written report of the specific local society programs needed for the ensuing year, at least by title and possibly a definition; (3) by June 1, 1966, discuss with local district committee members programs needed. These programs may then be referred to the Deans of the three medical schools for development and implementation.

On motion, duly seconded, the report was approved and Dr. Kerr thanked Dr. Matthews for his untiring efforts in developing programs for the Annual Session and asked that each Councilor get in touch with Dr. Matthews at any time with any suggestions that may be helpful.

Dr. Wilson reported that the University of Missouri Medical Center had been selected by Governor Hearnes to be an applicant for planning funds for a State Regional Program on Heart, Cancer and Stroke and gave a résumé of what the program consisted of. He stated that $25 million dollars was available through the Federal government, not for construction use, but for "planning money." He said that the University of Missouri had made application for a grant of $300,000. He said the Administrative pattern is a Committee of the whole composed of an Advisory Committee of 50 or 60 people to work with the Governor's office and the Advisory Council consisting of 12 members to make decisions or plans; a Scientific Review Sub-Committee composed of persons representing the State Division of Welfare, State Division of Health, Division of Mental Diseases, the three state medical schools and the Kirksville and Kansas City Colleges of Osteopathy and Surgery. Also a Liaison Sub-Committee to be composed of representatives of the State Medical Association, Hospital Association, Heart Association, Public Health Association, etc. He stated there was to be a meeting of the Committee as a whole on May 22.

It was reported that a letter had been received from Mr. Nathan J. Stark, Chairman of the Advisory Council of the Missouri Regional Program for Heart, Cancer and Stroke, inviting the Association to be a charter member of the Liaison Sub-Committee. On motion of Dr. Benoit, duly seconded, it was agreed that MSMA accept the invitation to be a charter member of the Liaison Sub-Committee of the State Advisory Committee on Heart, Cancer and Stroke. It was also agreed, on motion, duly seconded, that Dr. Stuart be appointed to represent MSMA at the May 22 meeting.

Dr. Kerr thanked Dr. Wilson for his report, and also expressed thanks to Drs. Bussman and O'Leary who represented St. Louis and Washington Universities respectively, and spoke briefly re: plans in their area for a regional Heart, Cancer and Stroke program.

Dr. Finnegan recommended that Dr. Spratt of the State Cancer Hospital be appointed a member of the Editorial Board of MISSOURI MEDICINE. On motion of Dr. McCraw, duly seconded, Dr. Finnegan's recommendation was approved.

Mr. Allen Smith called attention to an announcement received from Ohio when the Ohio State Medical Association moved its headquarters office. He suggested a similar idea might be considered in our case when the Association office moves to Jefferson City in lieu of the regular type announcement card. On motion of Dr. Stricker, duly seconded, the Executive Office was authorized to send something similar to the Ohio announcement when the office moved to Jefferson City.

The Councilors reported on various activities in their respective districts.

Dr. Benoit invited the Council to hold its next meeting in Kansas City, September 24, 25, 1966. He stated that he would try to make arrangements for the meeting to be held at the new Hilton Inn. On motion of Dr. Whitener, duly seconded, the Council accepted Dr. Benoit's invitation to hold the Council meeting in Kansas City.

Meeting of September 24, 25, 1966

David N. Kerr, M.D., St. Louis, Chairman, called the meeting to order. The following persons were present: Drs. Kerr; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Byron M. Stuart, Boonville; Hector W. Benoit, Jr., Kansas City; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Paul R. Whitener, St. Louis County; Leonard T. Furlow, St. Louis; A. W. Neilson, St. Louis; J. Loren Washburn, Versailles; Vernon E. Wilson, Columbia; Henry V. Guhleman, Jefferson City; John H. Walters, Columbia; M. L. Gentry, Jefferson City; Wm. J. Shaw, Fayette; Edward B. Shires, Kansas City; F. Thomas Moseley, Springfield; Cecil Leitch, Kansas City; George J. Lytton, Kansas City; H. G. Parker, Platte City; Mrs. Wallace Stacey, Independence; Harry Still, D.O., Macon; Messrs. John A. Hailey, Jefferson City; John Noble, Kennett; Hollister S. Smith, St. Louis;

Wm. H. Bartleson and James Soward, Kansas City; Arthur W. Seeds, Chicago; Gary L. Schnedler, Springfield; Albert J. Stephan, Jr., St. Louis; Thomas P. Fox, Allen D. Smith, Ray McIntyre, Jefferson City; T. R. O'Brien, Jordan Singleton and Lemoine Skinner, Jr., St. Louis.

Dr. Kerr asked for approval of the Minutes of the Council Meeting of May 7, 8, 1966, which had been distributed in the usual manner. On motion of Dr. Stuart, duly seconded, the minutes were approved.

Dr. Gunn reported that the financial condition of the Association was in keeping with the budget, although he stated that the expenses of moving the office would run about $5,000. However, to partly offset that expense, he stated that we did not have the number of mailings on Medicare that had been anticipated. He also stated that one additional employee had been secured to help on Journal work, but that had been approved by the Council earlier and was figured in the 1966 Budget. On motion of Dr. Fisher, duly seconded, the report was approved.

Mr. O'Brien and Senator Noble were asked to report on the IRS negotiations and the results thereof. Mr. O'Brien discussed the Conference Mr. Noble and he had with representatives of the IRS regarding exhibit income at MSMA Annual Sessions. Mr. Noble had prepared a brief which was presented at the Conference along with other material. They reported that the Conference went very well from our standpoint. A written report from the IRS under date of September 16, 1966, stated that income from the sale of exhibit space, 1958 through 1964, is held not to represent unrelated business taxable income, and therefore, no tax is owed. On motion of Dr. Wray, duly seconded, the Council commended and expressed its appreciation to both Mr. Noble and Mr. O'Brien for the manner in which this situation was handled and that all were extremely pleased with the outcome of the case. Mr. O'Brien stated that the AMA had been very helpful in this entire matter.

Mr. McIntyre reported that a letter from the AMA had been sent to the Councilors requesting any names of Negro physicians, members of AMA in Missouri, for consideration to AMA Committees. Names submitted to the Headquarters Office will, in turn, be sent on to the AMA.

He also reported that a Continental Breakfast was being sponsored by MSMA for the delegates of the American Association of Medical Assistants on October 20, at the Chase Hotel in St. Louis. He stated that Dr. Stuart had been invited to give the welcoming address and a few short remarks, and that Dr. Hudson, President of the AMA will speak on Friday, October 21.

A letter was read from Dr. Richard A. Sutter, a member of MSMA Committee on Industrial Health and also a member of the Council on Occupational Health of the AMA, requesting that MSMA send an official invitation to the Council on Occupational Health of the AMA to meet in St. Louis in 1969. On motion of Dr. Whitener, duly seconded, it was agreed that the MSMA invite the Council on Occupational Health to meet in St. Louis in 1969 and that informational copies be sent to the two local societies involved so that they may take similar action.

Letters of thanks were received from Mrs. Walter Sewell and Mrs. J. H. Summers for the flowers received at the time of death of Drs. Sewell and Summers. It was reported that a letter had been received from Mrs. Richard Sutter expressing her appreciation to the MSMA for our support when she was president of the Woman's Auxiliary to the AMA, and a letter received from Mrs. Bohnsack expressing her thanks to the Association for the help received during her term as President of the Woman's Auxiliary to the MSMA.

At the request of the Council in May, a letter had been sent to the AMA requesting clarification of a report that AMA-ERF unrestricted funds were no longer to be earmarked for the Medical Schools. A reply was received from the AMA stating that they plan to continue their unrestricted funds to Medical Schools and copies were sent to the three Deans of the medical schools in Missouri. The reply also stated that AMA-ERF still needs the continued support of physician contributions in order to make this possible. Dr. Wilson stated that the University of Missouri needs this financial support.

Mr. McIntyre mentioned that a request had been received from the AMA for each State Medical Association to send a representative to Atlanta to attend a meeting on "Up-To-Date Immunization" data. Dr. Kinder, chairman of the Infant and Child Care Committee of MSMA had been contacted but was unable to attend, but Dr. Guy Magness, a member of the Committee, was asked to attend in place of Dr. Kinder. It was requested that the Council approve expenses for Dr. Magness to attend the meeting on October 17, and have him report back to the Council, and also submit a written report to be published in MISSOURI MEDICINE. On motion of Dr. Wray, duly seconded, it was agreed to send Dr. Magness as our official representative.

It was reported that October 16-22 has been designated as National Community Health Week. This is the week in which to bring to the attention of the lay public the health facilities available in the various communities, and the fine work being done by hospitals, nurses, physicians, etc. It has been suggested that each state promote Community Health Week. In this connection, MSMA has contacted the Governor's Office requesting that the Governor sign a proclamation designating the week of October 16-22 as Community Health Week in Missouri. Arrangements have been made for MSMA representatives to meet October 5, at 11:00 a.m. with the Governor in his office. Officers of the Association plan to be present.

Mr. McIntyre reported that the Headquarters Office is now in Jefferson City and has been in operation there officially since September 1, 1966. He stated that four new employees had been added to our staff and that with experience in our particular type of work, all would work out fine. He invited all of the Councilors and Officers to come to see the office in the Medical Arts Building any time they are in this area. He added that the office is operating efficiently even though we still have some problems to work out in connection with the move. He also stated that we have been well received by the local doctors and their wives and other people who know we are there.

Dr. Stuart reported on a number of meetings he attended in the last few months. He stated that he attended the White House Conference on Medicare in June in Washington, D. C., and also attended the Greene County Medical Society's special session on Medicare; and attended Dr. Summers' funeral in Lebanon. In August he attended a meeting in Jefferson City in Proctor Carter's office to discuss Missouri's implementation of Title XIX of the Medicare Bill and on the same day, attended a meeting of the MSMA Committee on Legislative Matters. He also attended a meeting in Chicago of the Association of State Medical Association Presidents and the P. R. Institute. He reported that Joseph Stetler who represents the Pharmaceutical Manufacturer's Association spoke on Journal advertising and commercial exhibits stating that too many of the journals are not read and many of the meetings are not attended well enough to make exhibiting worthwhile. Mr. Stetler presented an idea to bring back to the State Association, i.e., to have the commercial drug houses sponsor various programs, perhaps a half day or one day symposium—have several companies submit programs and accept the best ones; then the non-winners could exhibit. He stated there would be more about this later from the Pharmaceutical Manufacturer's Association.

Dr. Stuart also reported that he attended a meeting in Kentucky as a guest of the Kentucky State Medical Association and said he highly recommends this meeting to all future presidents. He stated he attended the House of Delegates meetings and it was interesting to see how other states operate. He mentioned one thing that interested him and that was an indoctrination course for all new members of the Society required in their bylaws. He also mentioned that Mrs. Wallace Stacey, President of the Woman's Auxiliary attended the Kentucky meeting.

Mrs. Stacey reported that she had learned that Missouri Woman's Auxiliary had been represented at the Kentucky State meeting for the first time in eight years. She also stated that she felt the prime purpose of the Auxiliary could be to reflect in public relations the feelings of the medical profession the things that the doctors do not have time to do and that in some instances the wives could do better. She stated she would like for the physicians to call on the Auxiliary at any time they could help.

Dr. Walters, Chairman of the Committee on Nursing and Paramedical Personnel, presented a brief report of the meeting held on June 12 and a meeting with the State Board of Nursing just recently. Dr. Walters said the Committee would like Council approval for the establishment of services within the framework of the State Office for the recruitment and placement of nurses and workers in paramedical fields and the exchange of information facilities by the MSMA Woman's Auxiliary. Mrs. Stacey has consented to set up this service and has appointed Mrs. Roger Bumgarner to help with the distribution, he stated. He also stated the MSMA office could help in making available to the Auxiliary the various teaching materials and pamphlets on nursing and to get these materials in the hands of nursing groups and other organizations that may want them. He stated the ladies are well qualified by their position and background to do this. He stated that the other definite weakness in nursing education was the fact that many schools of nursing have an overflow and have to turn down applicants, while others do not have enough applicants. He mentioned he would like to see an exchange of information services set up that would turn over the names of nurse candidates and keep in contact with them and they could be directed into channels that do have openings. He suggested that the State Medical Association could furnish the means and the Auxiliary would do the work, and requested that the Council approve the establishment of a distribution center for pamphlets, etc. (The full report of the Committee along with a summary report are on file in the Association office.) On motion of Dr. Gunn, duly seconded, the report of the Committee on Nursing and Paramedical Personnel was approved.

Dr. Guhleman, Chairman of the Committee on Mental Health, gave the report of the meeting held on July 10, stating that meetings had been held with representatives of the psychologists association and the discussions relative to the psychologists' legislative proposal for professional certification. The Committee agreed that any legislative proposal which would give statutory recognition to the practice of psychology should contain safeguards assuring medical orientation for the patient undergoing psychotherapy. Dr. Guhleman mentioned that the psychologists are of the opinion they should have their own Board.

He called attention to the resolution by Dr. Truman B. Schertz which was introduced in the 1966 session of the MSMA House of Delegates and referred to the Council and the Legislative Committee for possible action. He stated that this resolution opposes separate statutory licensure for various paramedical groups including psychologists, and proposes that they be brought under the jurisdiction of the Board of Medical Examiners. It was the Committee's feeling and recommendation that if the State Medical Association takes any further action toward implementing Dr. Schertz's resolution, psychologists be NOT included among the medical ancillary groups which would be affected. (Par. 2, Pg. 2 of the Report). The full report is on file in the Association Office. After considerable discussion, on motion of Dr. Benoit, duly seconded, it was agreed that the report of the Committee on Mental Health be accepted and referred to the Legislative Committee for implementation relative to the certification of paramedical personnel, with the deletion of paragraph 2, page 2, of the report.

Dr. Parker, President of the State Board of Registration for the Healing Arts, gave a résumé of the Temporary Licensure procedures for non-citizen physicians in Missouri, stating that until recent years there were no provisions for temporary licenses for foreign physicians and that the State Mental Hospitals were unable to fill vacancies on their staffs. He stated that the Legislature passed a Temporary Licensure Law for the needs of State Mental Hospitals and Tuberculosis Hospitals, this being the original intent of the law. He stated also that the original bill was amended to grant temporary licenses for physicians to work in the State Mental Hospitals, TB Hospitals or other accredited hospitals approved by the Board. The Board under this law has also been granting temporary licenses to physicians in Missouri hospitals with accredited training programs. He stated that at the present time 850 temporary licenses have been issued.

Mr. O'Brien stated that the original intent of the law is very adequately outlined in Section 334.045 of the Missouri Statutes. Mr. O'Brien mentioned that the last section limiting practice under temporary licensure was put in at the request of MSMA. Discussion followed but no official action was taken by the Council as to whether or not this program should be expanded so that foreign physicians might be used to work in emergency rooms and as staff physicians of other hospitals without accredited training programs. On motion of Dr. Matthews, duly seconded, it was agreed that the State Board of Registration go on record for two things: (1) that they come to some decision in their own group as to whether or not ancillary medical groups, if certified, or licensed, may well be taken under their supervision and

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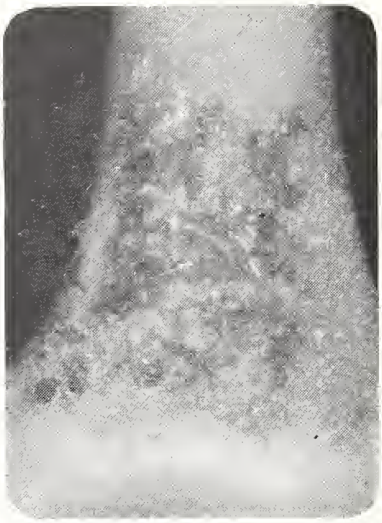

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direction by amending present state law; (2) delegate one or more of their members to work with our Legislative Committee and the Osteopathic Association to draft appropriate legislation with the involved paramedical groups for benefit of all concerned.

Mr. McIntyre reported that he had received a letter from Dr. Shaw resigning as Chairman of the State Advisory Committee to Selective Service due to the fact that he is returning to South Vietnam in November for a six months period at the request of AID. Dr. Shaw expressed his regret at having to relinquish the position especially since he had just been appointed chairman. He requested that the Council submit names of other possible candidates for the job to the National Committee.

Dr. M. L. Gentry of the Missouri Division of Health presented an up-to-date report on Medicare in Missouri. He stated that Medicare is still a controversial program in Missouri but that his office is trying to make it as simple as possible. He reported that 169 licensed hospitals in Missouri have been approved under the Medicare program with the exception of about 10. He said these 10 are either specialized hospitals or are unable to meet the requirements of the Medicare law. He reported that the Extended Care Program will go into effect January 1, 1967, and that information from Social Security and postcards had been returned indicating little interest at questing that they return the card indicating whether or not they were interested in participating under the Medicare program. He stated that a small number of postcards had been returned incicating little interest at present. He indicated that the nursing homes may be unhappy with the Government's reimbursement formula. He also mentioned that a letter had been sent to all hospitals in the state, with the exception of State Mental Hospitals, inquiring as to whether or not they were interested in establishing an extended care facility in their institution. Of the replies received, approximately half want more information and others are not interested. He mentioned that this program was intended for acute care, not custodial care, and the patient cannot get into the hospital's extended care facility unless the attending physician says the patient needs this type of care.

Dr. Kerr reported he had received a letter from Dr. Henry Allen, former chairman of the Advisory Committee to Selective Service, expressing to the members of the Council his appreciation for the help given him during his term as chairman. On motion it was agreed that a letter should be sent to Dr. Allen thanking him for his services for the last 15 years.

Mr. Fox presented and reviewed the minutes of the meeting of the Committee on Utilization Review which was held on September 11. He called attention to that portion of the report concerning the lack of interest on the part of nursing homes throughout the state in the Medicare program and stated that the Committee would like the Council to take immediate action to help provide nursing home beds effective January 1, 1967 at which time this phase of the Medicare program will be implemented. After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that MSMA send a communication to the Missouri Hospital Association recommending that they consider the development of extended care facilities either by new construction or by revamping present facilities, which would qualify under the Medicare act.

Mr. Fox called attention to the request of the Committee that the Council consider a statement by MSMA reporting the facts responsible for rising costs of health care. This was discussed at length, it being brought out that there had been a number of articles already published in the newspapers to this effect. It was decided that no action be taken in this respect but deferred for later discussion on the agenda relative to a formal opening of the office. On motion of Dr. Miller, duly seconded, it was agreed that the report of the Committee on Utilization Review be accepted. (Full minutes of the Committee are on file in the Executive Office.)

Dr. Matthews presented an outline of the 1967 Annual Session program up to date and stated that several of the panels have been completed, and that work on the program was progressing nicely. He reported that movies would again be shown during the two days simultaneously with the scientific session. Films would be obtained from the AMA and their endorsement used in selecting approximately 24 movies. He then mentioned that plans were being made on the promotion of the program this year in order to increase the attendance. He stated that changing the days of the week was one of the things he thought might help, that is, starting on Thursday and running through Sunday morning might be of some benefit, but suggested that all efforts should be made to increase the attendance of the membership. He reported that Dr. Kerr would work up a special program for either Thursday or Friday evening for Fireside Chats or Round Table Discussions by the Chest Physicians.

It was suggested by Dr. English that Senator Patterson be considered for one of the speakers at the General Luncheon on Saturday being sponsored by the Legislative Committee. On motion of Dr. Stuart, duly seconded, the progress report on the 1967 Annual Session was approved.

Dr. Wilson reported that the Four Year Medical School of the University of Missouri in Columbia would celebrate its 10th Anniversary November 6-12, 1966. He stated that Dr. E. Grey Dimond and Dr. Salinger of the American College of Surgeons would participate. He also reported that M.D. day would be on November 5.

Dr. Wilson called attention to S.B. 3008, "Partnership in Health" bill and urged everyone to be sure and read it, stating that it concerned medical care in Federal-State interrelationships and that it involves state-wide health care planning. He reported that the University is very interested in this particular bill and recommended that the Council take a good look at it. Mr. Seeds of the AMA reported that the bill would create a state-wide agency to control all federal health monies that come into the state. Mr. Seeds reported that he would try to obtain copies of the bill.

On motion of Dr. Fisher, duly seconded, it was agreed that a letter of congratulations on the 10th Anniversary of the Four Year Medical School of the University of Missouri be sent to Dr. Wilson.

Mr. O'Brien gave a brief résumé of the existing Military Dependents' Medical Care program stating that it was started in 1958, and that the schedule of benefits need revising. He stated that a new act had been introduced known as the Medicare Benefits Act of 1966 which includes some changes not only in the old ODMC program but adds a new program which would provide similar benefits to retired personnel of the Armed Services, the USPHS group and the geodetic group, and include retarded children of military personnel. He stated that this new law would probably go into effect January 1, 1967. He also stated that the act would increase the benefits for the dependents of those in the Armed Forces, including retarded children, etc., and would also include outpatient as well as inpatient care to retired members of the Armed Forces.

Mr. O'Brien reported that a letter had been written to ODMC to request a revision of the present Missouri program to a usual, customary and reasonable fee, eliminating a fee schedule. A meeting with Col. Hayes of ODMC is proposed on November 17, 1966 to discuss this problem, including renewal of the current contract which expires on December 31, 1966. After discussion, on motion of Dr. Stuart, duly seconded, it was agreed that Mr. O'Brien proceed with the plan, to meet with Col. Hayes on November 17, and it was also agreed that the Association contact appropriate specialty groups if necessary in order to help negotiate the contract.

Mr. O'Brien reported that Mr. James Foristel, AMA Washington Representative, was ill and in the hospital in Alexandria, Va. The Council directed that a card be sent, signed by all the Councilors, extending best wishes.

Dr. Whitener reported on the absence of Dr. Robert Mayer, Councilor of the 4th District because of the serious illness of his mother. It was agreed that a telegram be sent to Dr. Mayer expressing the Council's concern.

Dr. Furlow presented the report of the meeting of the Medico-Legal Committee which was held on September 11, jointly with the Medico-Legal Committee of the Missouri Bar. He stated that this was the first joint meeting of the two committees and was more or less an organizational meeting to discuss various problems of mutual interest. Dr. Furlow stated that the Bar Association Committee was anxious to discuss the matter of securing expert medical testimony in malpractice cases. He said there were a number of problems which MSMA would like to discuss with the Bar Association, one of them being the possibility of substituting a modern medical-legal examiner system for Missouri's coroner system.

Dr. Furlow reported that at this meeting the discussion was confined primarily with matters relating to the obtaining of expert medical testimony in malpractice cases. It was agreed that the co-chairmen name a sub-committee to draft a proposal along the lines which had been discussed. Mr. Murphy named Messrs. Fremont and Havener as the attorney-members of the sub-committee and Dr. Furlow named Drs. McCoy and Ford as the physician-members. Dr. Furlow reported that it was agreed the committees would meet again in two or three weeks after the draft-proposal had been circulated, subject to agreement on a specific date. He mentioned that it was suggested that representatives of other interested groups be invited to participate in future discussions of the committees. Final action on this was deferred pending clarification from the Council of MSMA. After discussion, it was agreed, on motion of Dr. Whitener, duly seconded, that the decision to invite other groups should be left to Dr. Furlow when the opportunity should arise. On motion of Dr. Benoit, duly seconded, the report of the Medico-Legal Committee was accepted.

Dr. Shires, Chairman of the MSMA Committee on Physical Medicine and Rehabilitation, reported on a meeting he attended as official representative of the Association at the request of Dr. Stuart, a Conference on Rehabilitation sponsored by the AMA Committee on Rehabilitation in Chicago on September 8 and 9. He stated that about 60 persons attended and the program was excellent presenting greater knowledge of the functions of the Vocational Rehabilitation Administration and the Social Security Administration. He stated that the MSMA Committee on Physical Medicine and Rehabilitation was in favor of such a Conference on a state level in Missouri. He mentioned that Dr. Wolcott of the University of Missouri, a member of the Committee said they would also be willing to participate and help in the planning and proposed some time within the next six months, if possible, the meeting to be co-sponsored with the University of Missouri, Vocational Rehabilitation and Social Security Administration at the state level. It was suggested that representatives from each of the local county medical societies should be invited. Dr. Shires requested Council approval to go ahead and make tentative plans for such a conference. After discussion, on motion of Dr. Benoit, duly seconded, Dr. Shire's report was approved.

Dr. Moseley, Chairman of MMPAC, gave a brief résumé of the activities of his organization along with an outline of some future plans and recommendations. After considerable study and research involving other state medical associations which have included their state PAC dues on their regular annual membership dues billing forms, the Executive Committee recommends to the Council the following: That the Council recommend to the MSMA 1967 House of Delegates that MMPAC dues be listed on the 1968 annual dues forms for MSMA members indicated, however, as voluntary and non-deductible.

After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that a formal recommendation from the Council be prepared for presentation to the House of Delegates placing MMPAC dues notices on 1968 MSMA regular dues notices to all members, but indicated as voluntary.

It was suggested that figures should be secured regarding tax liability if subject to payment of taxes and be presented to the Budget Committee for information before the next Council meeting. On motion of Dr. Miller, duly seconded, it was agreed that MSMA staff be directed to get these figures for the Council with the help of our legal counsel and our CPA.

Dr. Gerald Miller gave a report on tuberculosis management on an expanded local facilities basis as opposed to expanded state facilities. He presented a resolution from the Council of the Jackson County Medical Society opposing expansion of state facilities for tuberculosis and proposing expansion of local facilities. Dr. Benoit reported as a member of the Committee appointed by the Governor to reorganize the Division of Health, that this matter had been brought before the Governor's Committee. On motion of Dr. McCraw, duly seconded, it was agreed that this should be referred to the MSMA Committee on Tuberculosis for further consideration and recommendation. On motion, duly seconded, Dr. Miller's report was accepted.

Dr. Matthews presented the report of the Committee on Legislative Matters which met on August 19 in Jefferson City. Preceding the formal meeting, members of the Committee and staff met with Mr. Proctor Carter of the Division of Welfare and his staff to discuss Missouri's implementation of Title XIX of P.L. 89-97. Mr. Carter presented figures on the number of people in the State of Missouri over the age of 65, the disabled, the number on relief, aid to the blind, etc. He estimated that the five required programs to be covered by Title XIX by 1970 would cost the state 10 to 15 million dollars annually to implement now. The Committee recommends the following plan of priorities in progressing toward full implementation of the program.

1. Add Aid to Dependent Children (ADC), General Relief (CR), Aid to the Blind (AB) and Blind Pension (BP) beneficiaries to the present program for Prescribed Drugs.
2. Add ADC, GR, AB and BP to the present Dental Care Program.
3. Add provision for laboratory and X-ray services. (Mandatory under Title XIX.)
4. Add provision for Physicians' services. (Mandatory under Title XIX.)
5. Add AB and BP to the Hospital Care Plan which is in effect for Aid to the Permanently and Totally Disabled (PTD), ADC and GR. (Mandatory under Title XIX.)
6. Add provision for skilled nursing home services. (Mandatory under Title XIX.)
7. Add provisions for outpatient hospital services and payment for deductibles. (Mandatory under Title XIX.)

On motion of Dr. Miller, duly seconded, it was agreed that this portion of the report be approved.

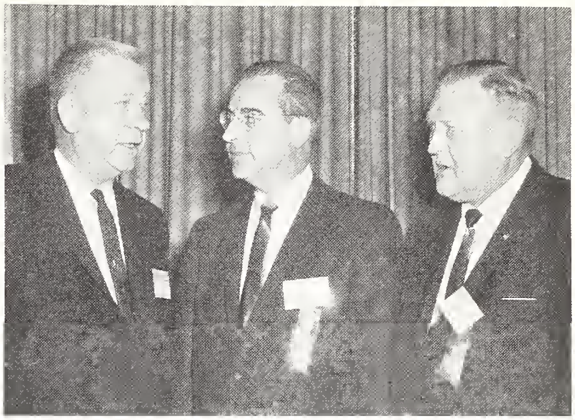
Dr. Matthews reported that the Committee discussed the problem of providing legal liability protection for physicians serving on professional committees, and suggests that this subject be referred to the MSMA Legal Council. After discussion, this portion of the report was referred to our Legal Counsel for study and report back to the Council.

In reference to the resolution passed at MSMA 1966 Annual Session relating to registration of paramedical personnel under the Board of Registration for the Healing Arts, the consensus of the Committee was that considerable study would have to be given to this proposal and that the first step should be a formal approach to the Healing Arts Board to determine the board's reaction to such a proposal. It was noted that this was discussed on Saturday while some of the members of the State Board were present at the Council meeting, with the Board to give their reaction on Sunday. On Sunday the Board reported that they approved the idea of having various paramedical groups if certified by law to come under the jurisdiction of the Board of Healing Arts. It was also reported the Board would continue its present policy of Temporary Licensure. On motion of Dr. Benoit, duly seconded, the report of the Committee on Legislative Matters was approved.

Chairman Kerr stated that unless there was objections, he would refer the matter of Temporary Licensure in Missouri to the MSMA Committee on Medical Education and Hospitals for further study and report to the Council. No objection.

Mr. Seeds of the AMA gave a short analysis of S.B. 3008, which had been discussed earlier. It was suggested that copies of this bill be obtained and sent to the Legislative Committee for their reaction and study, and information secured on the position of the AMA on this bill.

Dr. Neilson presented a report of the AMA Annual Meeting held in Chicago, June 26-30, 1966, and gave a run-down of the highlights of the meeting. His discussion included House of Delegates actions on: (1) Medicare and Title XIX; (2) Policy Statement on LSD; (3) Compulsory Hospital Assessments of Staff Members for Hospital Construction; (4) Osteopaths to be Commissioned as Medical Officers in the Armed Forces; (5) Medical Ethics.



A "Presidential Conference" following the MSMA House of Delegates' election of officers for the new year. (Left to right) President-Elect David N. Kerr of St. Louis, President Hector W. Benoit, Jr. of Kansas City and Immediate Past President Byron M. Stuart of Boonville.

He requested that consideration be given to three resolutions for possible introduction at the meeting in Las Vegas in November. The first of these proposed resolutions, he stated, proposed by Dr. Hawkins, President of St. Louis Medical Society, has to do with AMA considering more representation from large metropolitan areas. After discussion of this resolution, on motion of Dr. Cunn, duly seconded, it was agreed that this resolution be returned to Dr. Hawkins with request to resubmit it with background information for study before submitting it to the AMA.

A second resolution strengthening relationship between the AMA and the Student AMA (SAMA) might be helpful to all concerned. A third resolution might be submitted which would tighten regulations concerning AMA membership for physicians whc are employed by the Government.

After discussion, on motion of Dr. Miller, duly seconded, it was agreed that the SAMA proposed resolution be referred to the Committee on Medical Education and Hospitals for a careful study and recommendation for possible submission to the June 1967 meeting of the AMA.

Discussion followed regarding the resolution to tighten regulations on AMA membership of Government employed physicians. On motion of Dr. Benoit, duly seconded, it was agreed that our AMA delegates, if they judge it advisable, introduce such a resolution. On motion of Dr. McCraw, duly seconded, the AMA report by Dr. Neilson was approved.

Mr. Fox gave the following report regarding the Missouri State Medical Foundation stating that the number of Fall loans was 29, amounting to $19,250.00 and that the cash on hand as of September 20, 1966 was $8,062.09. He reported that $2,326.80 was due from MSMA, which would make a total of $10,388.89. He reported that the amount on deposit of Savings and Certificate of Deposits was $24,594.93, and that the cash available for December and January loans is $34,983.82. After discussion, on motion of Dr. Whitener, duly seconded, the report of the Missouri State Medical Foundation was approved and that the Executive Office be commended for the investment of excess funds.

Dr. McCraw gave a brief report of the P. R. Institute he and Allen Smith attended in Chicago, stating that it was a very good meeting and that the PR Manual was well worth reading, keeping in mind that good public relations must start between the doctor and the patient. He stated it was one of the best meetings he ever attended.

Dr. Kerr presented a letter received from Dr. Benoit, also sent to other MSMA officers, regarding a formal opening of the office in Jefferson City, with suggestions for such an affair. It was suggested that representatives of civic organizations, the State Government and other interested parties, along with the press, be invited to an informal ceremony, where various health items of general interest could be discussed and a news conference held. After discussion, on motion of Dr. Cope, duly seconded, it was agreed to have a formal opening of the State Office along the lines indicated. On motion of Dr. Gunn, duly seconded, it was agreed that the officers of the MSMA assist the staff in arrangements for the formal opening of the office, leaving the date for this event open at the discretion of the office staff.

The next meeting of the Council will be held on Saturday and Sunday, December 10, 11, 1966, with the Budget Committee meeting on the evening of Friday, December 9. On motion of Dr. Stuart, duly seconded, it was agreed to hold the meeting in St. Louis at the Chase Hotel.

The following persons were appointed to the Budget Committee: Drs. Walter Gunn, Chairman; Byron M. Stuart, Hector W. Benoit, Doyle C. McCraw, W. D. English and David N. Kerr.

Dr. Stuart expressed the appreciation of the Council and Officers to Dr. and Mrs. Benoit for their fine hospitality on Saturday night.

A number of names were discussed for consideration for possible appointment as chairman of the Medical Advisory Committee to Selective Service in Missouri to replace Dr. W. J. Shaw. Any other suggestions were to be sent to Mr. McIntyre at the state office.

All Councilors reported briefly on various meetings and other activities in their respective districts and presented a number of ideas for further consideration of the Council and various committees.

Meeting of December 10, 11, 1966

David N. Kerr, M.D., St. Louis, Chairman, called the meeting to order. Those present were: Drs. Kerr; Joseph L. Fisher, St. Joseph; Lysle M. Bach, Hannibal; Robert Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; General L. Miller, Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Byron M. Stuart, Boonville; Hector W. Benoit, Kansas City; Walter T. Gunn, St. Louis; John I. Matthews, Jefferson City; Joseph V. Finnegan, St. Louis; Stanley S. Peterson, Springfield; Arthur W. Neilson, St. Louis; Vernon E. Wilson, Columbia; George L. Watkins, Farmington; Joseph Kendis, A. C. Trueblood, Flavius Pernoud, William A. Knight, Guy N. Magness, St. Louis; Florence MacInnis, Kansas City; E. A. Belden and M. L. Gentry, Jefferson City; Messrs. John W. Noble, Kennett; Gary L. Schnedler, Springfield; James Soward, Kansas City; Hollister Smith, St. Louis; Jordan Singleton, Lemoine Skinner, and T. R. O'Brien, St. Louis; Ray McIntyre, Tom P. Fox, Allen D. Smith, Jefferson City.

Dr. McCraw, Vice Chairman of the Council, assumed the chair and asked for approval of the minutes of the Council, September 24, 25, 1966 in Kansas City, which had been distributed in the usual way. On motion, duly seconded, the minutes were approved.

Mr. McIntyre reported that a letter had been received from the National Committee on Selective Service System stating that Dr. William Shaw of Fayette would continue as chairman of the Medical Advisory Committee to the Selective Service System for Missouri, since his proposed tour of duty back to Viet Nam for six months did not materialize.

He also reported that a breakfast, sponsored by the Missouri State Medical Association, had been held at the Chase Hotel for delegates at the Annual Convention of the American Medical Secretaries and Assistants Association in October. He stated that 150 delegates attended the breakfast. He also reported that Dr. Stuart, representing MSMA, appeared before the group and gave a welcoming talk at the opening session and that Dr. Hudson, President of the AMA, was the featured speaker at the first day's luncheon.

The Association received a letter from the Missouri Hospital Association regarding the need for better financial support under Medicare for nursing homes. They stated they would be most happy to cooperate with MSMA in any way in working on the nursing home problem and suggested a liaison committee with MSMA to meet from time to time to discuss mutual problems.

Mr. McIntyre reported that Dr. Shires, Chairman of the MSMA Committee on Physical Medicine and Rehabilitation, had attended a National Conference on Rehabilitation of the AMA in September, the purpose of the Conference was to inform physicians relative to Federal and State Vocational Rehabilitation programs and Disability determination units. He stated that Dr. Shires proposed, in his report to the Council at its September meeting, a similar meeting on a state basis sponsored by the MSMA Committee, financed by federal grants. Dr. Shires reported by letter recently that no federal funds would be available until July 1, 1967, and that the Committee plans to again contact the Vocational Rehabilitation Administration to suggest a program to be held in Missouri after July 1, 1967.

Mr. McIntyre reported he had received a letter from Governor Hearnes under date of November 2, inviting him to serve on the Missouri Governor's Policy Committee for Comprehensive Rehabilitation Planning.

Council attention was called to a program on Socio-Economics of Health Care sponsored by the Council on Medical Service of the AMA to be held January 22, 23, 1967 at the Palmer House in Chicago, requesting that representatives of the Association attend. After discussion, on motion of Dr. Stuart, duly seconded, it was agreed that Dr. Herbert C. Wiegand, St. Louis, Chairman of the Committee on Medical Economies, be requested to attend this meeting, expenses to be paid by the Association.

Dr. Kerr took over the chairmanship of the meeting.

Dr. Gunn presented the Treasurer's Report and the financial standing as of November 30, 1966, stating that there was $20,246.61 in the Treasurer's Account; $673.74 in the Secretary's account, making a total of $20,920.35. He also stated there was $112,582.87 in the Investment account. He stated that expenses for the year would run more than the budgeted income. On motion of Dr. Benoit, duly seconded, the report of the Treasurer was accepted.

Mr. O'Brien gave an explanation regarding the ODMC (Office of Dependents' Medical Care Program) which has now been expanded, by action of the 1966 Congress, to include: out-patient care for the dependents of Armed Forces Uniformed personnel, retired Military personnel and their dependents, coverage for care of the handicapped dependents of active duty members and extended inpatient care for dependents of active duty personnel.

Mr. O'Brien stated a meeting had been held with General Peatfield and his assistant and Mr. McIntyre to discuss changes in the present contract which expires in December, 1966, and to include the new added programs. He also stated that all agreed that a revised schedule of benefits be worked out for the year 1967. He stated that the new outpatient care program went into effect on October 1, 1966, and because of the time element, no benefit schedule had been worked out and no explanatory information as yet sent out to individual physicians. After considerable discussion, it was decided to table any action on this subject until later in the day.

Dr. Gunn reported on the Budget Committee meeting held on Friday, December 9, at which time the following budget for 1967 was approved for recommendation to the Council:

Salaries	$ 82,320
Furniture and Fixtures	2,000
Office Rent	4,800
General Expense	2,500
Office Supplies	5,000
MSMF Assessments	26,100
Postage	4,500
MSMF Expenses	2,500
Journal Expenses	33,000
Equipment Rentals, etc.	1,000
Telephone and Telegraph	4,500
Pension Expenses	12,755
Legal and Professional	5,500
Taxes, Payroll	2,300
Travel Expenses	6,000
Committee Expense	50,500
Total	$245,275

On motion of Dr. Benoit, seconded by Dr. Stuart, the 1967 Budget was approved.

Dr. Stuart reported on a number of meetings he had attended, including a Blue Shield meeting, the meeting of the American Association of Medical Secretaries, Cancer Detection Clinic Conference sponsored jointly by Missouri University and MSMA; Grand River Annual Christmas party, AMA meeting in Las Vegas, and several other meetings. He expressed his thanks to Dr. Fisher for representing MSMA at the Woman's Auxiliary meeting in St. Joseph in October.

Dr. Gentry of the Division of Health spoke on the Medicare situation in regard to nursing homes. He reported that the St. Louis area had submitted 18 applications; Kansas City—5; Outstate—16; making a total of 39 applications received from Nursing Homes. Hospital extended care applications received were: St. Louis—4; Kansas City—2; Outstate—12, making a total of 18 applications received from Hospitals, or a grand total of 57 applications received for extended care facilities. He also reported the number of beds available would be: Nursing Homes—St. Louis area—485; Kansas City area—34; Outstate—77. Hospitals—St. Louis area—138; Kansas City area—none; Outstate—60, making a grand total of 794 beds available. He reported that 26 applications have been approved. Dr. Gentry stated the Extended Care program begins on January 1, 1967, and also explained some of the requirements that must be met in order for hospitals and nursing homes to become eligible for extended care approval under the Medicare program.

Dr. Wilson gave a brief résumé of the Regional Medical Programs which are under consideration in the State of Missouri and mentioned a meeting which will be held in Bethesda, Md., to study a pilot program to be used as a national model. He stated it would be a one and a half day meeting held on January 15, 16, 17, 1967. It was suggested that a representative from the Association should attend. Dr. Benoit was designated by the Council to represent the Missouri State Medical Association at this January meeting. Dr. Wilson also mentioned the Student Health situation at the University of Missouri in St. Louis, concerning medical facilities in the area and that something needs to be worked out to take care of minor infirmary problems. He also mentioned that the University has a fund through which minor charges can be taken care of. Dr. Wilson commented on the Commission on Graduate Medical Education which is the Millis Report to the AMA House of Delegates, calling special attention to Chapter 5, and suggested that this be studied very carefully and that they would need some decisions before next Spring. He also mentioned the Ad Hoc Committee report on Education for Family Practice submitted to the AMA House in Las Vegas.

Dr. Watkins, Chairman of the Committee on Disaster Medical Care and National Defense Committee reviewed the minutes of the meeting held at the Missouri Hotel, November 27, 1966. He called attention to an invitation which was received from the AMA Council on National Security to participate in a regional program on Saturday, February 18, 1967 at the Colony Motor Hotel in Clayton, Mo. He stated that the Committee plans a panel program to be moderated by Dr. Watkins, with Mr. Donald O'Keane of the Missouri Health Mobilization, Dr. John Crowe and Dr. Hungate participating in the panel presentation. He said plans are to invite ancillary lay groups, town mayors, fire chiefs, representatives of Eleemosynary Institutions, hospital administrators and appropriate medical society representatives. He called special attention to Paragraph 4 of the report (which is on file in the Association Office) regarding reactivation of the Disaster Medical Care program in Missouri. It was suggested that the State Medical Association Committee members be selected by asking prospective members if they would like to serve, attend meetings and help to augment required disaster medical care programs in their district. The Committee also recommended that local medical societies devote at least one meeting a year to this subject.

On motion of Dr. Fisher, duly seconded, it was agreed that the Committee on Disaster Medical Care send a letter to County Society Secretaries recommending that one meeting a year be devoted to Disaster

Medical Care planning and that notice be included regarding the Regional Program sponsored by the AMA Council on National Security to be presented at the Colony Motor Hotel, Clayton, on February 18, 1967.

Dr. Mayer brought up the matter of a statewide code for ambulance services for possible consideration for legislative action in the State of Missouri. He suggested that copies of a model ambulance code be obtained and studied by one of the committees of the State Association. A number of Councilors discussed this matter as it might relate to their own areas, some thought that the matter might possibly be handled through local ordinances. On motion of Dr. Benoit, duly seconded, it was agreed that the matter of ambulance service be referred to the Committee on Trauma for study and that the Committee report back to the Council in due time. After discussion, on motion of Dr. Benoit, duly seconded, the Report of the Committee on Disaster Medical Care and National Defense was approved.

Dr. Pernoud, Chairman, presented the report of the Committee on Eye Health in regard to the following items: (1) Amblyopia Feasibility Field Research Study by the Division of Health; (2) Eye Clinic Program of Fulton State Mental Hospital; (3) Driver's Vision Test for State License; (4) Contact Lens Service. Dr. Pernoud stated a poll of the Committee indicated majority approval of the Amblyopia Feasibility Field Research Study to be conducted by Dr. Langerman of the Division of Health, and said Dr. Langerman requested approval and support by the MSMA Council for this program. After discussion, on motion of Dr. Fisher, duly seconded, it was agreed that Item No. 1 of the report be approved under the supervision of the Eye Health Committee.

Item No. 2 was discussed in regard to Eye Clinic Program at the Fulton State Hospital. It was pointed out that this program would be under the direction of Dr. Vernon B. Jackson of Fulton, who is proposing to set up this program at all the State Hospitals in Missouri with the State Division of Mental Diseases absorbing the cost. In regard to Item No. 2, it was suggested that this paragraph in the report be amended by adding the words "in-patient examinations only." After discussion, on motion of Dr. Wray, duly seconded, it was agreed that Item No. 2 be accepted with the approval of Dr. Ulett, Director of the Division of Mental Diseases. There was one dissenting vote by Dr. Byron Stuart.

Item No. 3—Driver's Vision Test for State License. It was reported that the Chairman met with representatives of the Missouri Vision Test Section regarding revision of standards and forms relating to H.B. 135 enacted into law by the 73rd Missouri General Assembly, 1965. Several rules and regulation revisions were discussed which could be accomplished without legislative amendment to the existing law. He stated that proposed changes would be submitted to the Committee on Eye Health prior to official adoption. On motion of Dr. McCraw, duly seconded, Item No. 3 was approved.

Item No. 4—Contact Lens Service. Dr. Pernoud explained that this item is under consideration by the Committee and is being studied by our legal counsel. On motion of Dr. Wray, duly seconded, the report of the Committee on Eye Health was approved as amended.

Dr. Neilson presented a report on the actions of the AMA House of Delegates at its meeting in Las Vegas, November, 1966, as follows:

1. Amendment to the Constitution and By-Laws regarding the number of Delegates after the Houses reaches 250 delegates.

2. Civil Rights Act—opposed with vigor the requirement for physicians to sign non-discrimination forms. This was referred to the Council on Medical Services and Committee on Welfare Services.

3. Title XIX of the Medicare Act—recommended that statutes be amended for payment to the Patient with AMA in favor of supporting the amending of this act to permit payment to the physician without assignment.

4. Resolution No. 25—Changes in the Medicare Law to permit reimbursement charges on the basis of a valid statement rather than a receipted bill.

5. Simplified Claims Forms—State and Local Medical Societies are encouraged to cooperate in continuing efforts to achieve simplified and uniform claims for health insurance.

6. Billing for hospital based medical specialists—fees should not be merged with hospital charges—they should be billed and collected in the same manner as other physicians. Approved by the House.

7. Usual, Customary, Prevailing and Reasonable charges—the report was accepted as recommending state medical associations use their own definitions of these terms.

8. Resolution 10—Utilization Committee Immunity—State medical societies are urged to seek the passage of state legislation which would provide the physicians immunity from litigation arising from membership on such committees.

9. Report of Board of Trustees policy regarding payment for professional services. This included eight items reviewed by Dr. Neilson.

10. Ad Hoc Committee report on Family Practice. This was approved and referred to the Council on Medical Education for implementation and planning. Dr. Neilson suggested that copies be obtained and sent to each Councilor for study.

11. Millis Report—Graduate Education of Physicians. Dr. Neilson stated the House approved a reference committee report asking physicians and medical societies to study this and present a critique to the Board of Trustees. He mentioned that the Council on Medical Education will also study this and report to the Board of Trustees.

12. Report of Council on Medical Service having to do with Alcoholism and General Hospitals. It was suggested that the state medical associations and component medical societies establish liaison with state and local hospital associations in order to implement this report.

13. Certification for Medicare Patients—Advise HEW how objectionable this is and to repeal portions of PL 89-97, AMA to be available to assist in appropriate amendments to this legislation. Passed by AMA House.

14. Joint Commission on Certifying Hospitals—Reference Committee stated that Clinical Pathology and Diagnostic Services constitute the practice of medicine and recommends that the AMA direct and instruct its members on the Joint Commission to express grave concern over unqualified laboratories.

15. Hospital Privileges for all Licensed Physicians—The House of Delegates reaffirms its support that every ethical licensed doctor of medicine, who needs and desires, have staff privileges according to his training and ability in at least one community hospital.

16. Physician Representation on Governing Boards of Hospitals—Resolved that it be the policy of the AMA to urge the inclusion of physicians in the mem-

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bership of Governing Boards of Hospitals. Approved by the House.

17. Resolution 49. Informing physicians of lawful procedures to protect their positions in hospitals. Resolved that when differences exist or arise between physicians, administrators of hospitals or boards, it is the prerogative of the medical staff to review the problems involved, and to support the medical staff members in maintaining the highest quality of medical care.

18. Resolution 104—June Session, 1966—Not implemented by the Board of Trustees. This implementation might involve unwarranted legal risks.

19. National Selective Service System for physicians—Some suggested changes in this situation—report was studied and adopted and sent to the Board of Trustees for their information in formulating a future plan.

20. Missouri Resolution No. 58—U. S. Public Health Service—Use of Professional Personnel by Public Health Service in proper assignments. Approved by the House.

Reference to Claims Forms—Referred to the Committee on Medical Economics; Utilization Review—seek legislation to provide immunization from suit—referred to Legislative Committee of MSMA; Ad Hoc Committee Report re: Family Practice—referred to Medical Education and Hospitals Committee; Millis Report—referred to Medical Education and Hospitals Committee. Dr. Kerr suggested that copies of the Ad Hoc Report and Millis Report be obtained and sent to each Councilor. Alcoholism Report—referred to Committee on Alcoholism; Medical Manpower Act—referred to Dr. Shaw for recommendations. Graduate Education—Remuneration of House Officers—referred to Medical Economics Committee. Other items were given to the staff to send to the proper committees.

Dr. Kerr thanked Dr. Neilson for his report.

Dr. Trueblood presented the report of the Committee on Maternal Welfare which met at the Missouri Hotel on November 6, 1966. He indicated the purpose of the meeting was to consider the request of the Program Committee to develop a panel program for the 1967 Annual Session and the development of the Committee's luncheon program on April 7, during the Annual Session. He reported that the Committee agreed on a panel program entitled "Family Planning" with one out-of-state speaker and two other speakers to participate. The Committee also plans to review two case reports at their luncheon meeting. After discussion, on motion of Dr. McCraw, duly seconded, the report of the Maternal Welfare Committee was accepted.

Dr. Cope presented the report of the Committee on Cancer for Dr. Schewe, the chairman, who was unable to attend the meeting. Dr. Cope reported that the Committee on Cancer considered MSMA representation on the Missouri Interagency Council on Smoking and Health. He stated that the purposes of the Interagency Council was the dissemination of information pertaining to the hazards of smoking to health. He also stated that to date the MSMA has been represented through the Committee on Cancer pending the Council approval of such membership. He reported that the Interagency Council has met on three occasions, first, to organize and formulate by-laws, second, to hear a report on a National Conference on Smoking and Health, and the last such meeting to formulate a workshop to be held in Kansas City on this subject over a three day period, underwritten by the U. S. Public Health Service. He stated that the Committee on Cancer was polled by mail regarding their approval that the State Association be represented on the Interagency Council, which was approved by a majority vote. After discussion, on motion of Dr. Wray, duly seconded, it was agreed that the State Association be represented on the Interagency Council on Smoking and Health through the Committee on Cancer. On motion of Dr. Fisher, duly seconded, the report of the Committee on Cancer was approved.

Discussion followed regarding Title XIX in regard to vocational rehabilitation when it is implemented, it being pointed out that the Oath of Compliance under the Civil Rights Act has already caused considerable misunderstandings. It was stated that the Ohio State Medical Association has worked out some sort of statement or agreement with HEW, regarding the requirement for physicians to have to sign statements of nondiscrimination. On motion of Dr. Gunn, duly seconded, it was agreed that the Council authorize Mr. McIntyre to investigate the Ohio plan further and report back to the Council.

Discussion was resumed on a new contract with ODMC for the year 1967, Mr. O'Brien explaining how the first contracts were negotiated. The Council and Medical Economics Committee studied these contracts and worked out the schedule of benefits which has been satisfactory to most physicians, with some exceptions. He stated that the contracts were signed by the President and Secretary of MSMA, and by the President and Secretary of Blue Shield, the fiscal administrator. In the new contract which would begin on January 1, 1967, it has been suggested that no schedule of benefits be published, that agreement would be worked out with the ODMC whereby the physician would charge his usual or customary fee for services, and if these were over and above what the Government would allow, they would be submitted to a MSMA Review Committee for recommendation for payment or reduction.

After considerable discussion, the following motion was made by Dr. Cope, seconded by Dr. Fisher: "It is moved that Mr. O'Brien be empowered to negotiate the best contract he can for the year 1967; it is also moved that usual, customary and reasonable fees negotiations be started as soon as possible for 1968, and that the MSMA Review Committee guarantee to review any charges considered unreasonable."

Amendment to Dr. Cope's motion: Dr. Benoit moved that after study Mr. O'Brien confer with such members of the Review Committee, as deemed appropriate, before the 1967 contract is finally executed.

This motion was seconded by Dr. English and the amendment was approved. Then Dr. Cope's motion as amended, was voted on and passed.

Dr. Magness presented a report for the Committee on Infant and Child Care for the Chairman, Dr. Kinder, who could not attend. Representatives of the Committee met on November 20, with representatives of the State Department of Education, to discuss the resolution approved by the House of Delegates in 1966 regarding a course in health education in the public schools which was referred to the Committee for implementation. The Liaison group agreed that this should not be a "required" course, but should be optional in view of the number of required courses already set up. It was also agreed that a health course should, at the outset, be offered only on the secondary school level. Dr. Magness also reported that the group agreed that MSMA should offer assistance and counsel in developing a program of instruction for the faculty. He reported that the Infant and Child Care Committee plans to meet on January 8, 1967 in Jefferson City to discuss this program which is scheduled to start in September, 1967. After discussion, on motion of Dr. Wray, duly seconded, the report of the Committee on Infant and Child Care was accepted.

Dr. Knight, Chairman of the Committee on Medical Education and Hospitals presented the report of the meeting of the Committee on November 20. The Committee met to discuss temporary licensure in Missouri for non-citizen physicians which was referred to the Committee by the Council at its meeting in September, 1966. The Committee's recommendations, as amended by the Council following extensive discussion follows:

> "1. The Committee recommends that temporary licenses, under the present Missouri law be given by the State Board of Registration for the Healing Arts to non-citizen physicians to serve in hospitals approved by the Board, in addition to state maintained hospitals and those with approved training programs, but under the following requirements:
>
> "a. These physicians must meet all permanent licensure qualifications (including the regular written examination) under present Missouri law with the exception of citizenship.
>
> "b. These physicians must have at least an approved internship or its equivalent.
>
> "c. These physicians must also be examined by a special board of examiners selected by the State Board of Registration for the Healing Arts to pass on their qualifications for a temporary license in a hospital approved by the State Board of Registration for the Healing Arts.
>
> "2. The Committee recommends that non-citizen physicians now under contract in Missouri licensed hospitals, without approved training programs or state maintained, be given temporary licenses to July 1, 1967. After that date all further temporary licenses issued by the Board would be determined on the basis of the points presented above.
>
> "3. Those non-citizen physicians granted a temporary license by the Board shall take the regular examination for a license to practice in Missouri even though they would have to wait for citizenship before a permanent license would be in effect.
>
> "4. The Committee further calls to the attention of the Council that no matter how well qualified doctors may be, the care delivered to patients heavily depends upon their supporting staff and facilities."

On motion of Dr. Fisher, seconded by Dr. Benoit, it was agreed that the Report of the Committee on Medical Education and Hospitals be approved as amended.

Dr. Matthews gave a brief résumé of the 1967 Annual Session program up to this time. He called attention to a change in part of the program on Friday morning stating that a panel program would be developed by the University of Missouri School of Medicine which would not include the University of Missouri award winner as a speaker. It was Dr. Matthews' suggestion that in planning the program for next year, to give some thought to inviting all three medical schools to participate. Dr. Matthews stated that the moderators of the various panels would be given suggestions (written) as to how they might better function for smoother and more effective direction and operation of their respective panel programs. After discussion, the Chairman thanked Dr. Matthews for his remarks and the excellent program being arranged for the Annual Session.

A portion of the head table. (Left to right) Mrs. and Dr. Paul F. Max of St. Louis, Mrs. and Dr. B. J. Bass of Salem and Mrs. and Dr. C. Read Boles of St. Louis. Doctor Max was elected Speaker of the House of Delegates.

Dr. MacInnis reviewed the report of the Committee on Tuberculosis which met at the Missouri Hotel, October 30, 1966. The Committee discussed the matter referred to it by the Council of MSMA in regard to the opposition of the Council of Jackson County Medical Society to expand the facilities for Tuberculosis patients at Mount Vernon and to support the concept of more local community programs for TB patients. Dr. Brasher reported to the Committee that no expansion was planned at Mt. Vernon at this time, that present plans include replacement of outdated equipment and facilities with the ultimate total beds to remain the same. The Committee agreed that the proposal from Jackson County Medical Society required further study including consultation with the Division of Health and, if necessary, inquiry into the per diem cost now paid by the state for TB patients. After discussion, on motion of Dr. Benoit, duly seconded, the report of the Committee on Tuberculosis was accepted.

Dr. Kendis presented the report of the Committee on Alcoholism which met October 2, at the Missouri Hotel. This was the first meeting of the Committee since it was established by the House of Delegates in March, 1966. Dr. Kendis reported that Dr. Catanzaro, formerly from Florida, had been appointed to head a program on Alcoholism for the State of Missouri which will be under the direction of the Missouri Division of Mental Diseases. Dr. Kendis also reported that one function of his committee would be to promote educational programs concerning alcoholism before both lay and professional groups. He stated that the committee agreed that Missouri laws on alcoholism are archaic and should be amended. It was the Committee's recommendation that liaison be promoted between the MSMA and the Missouri Bar Association to work for updating the state laws on alcoholism. On motion of Dr. Stuart, duly seconded, the report of the Committee on Alcoholism was accepted.

Dr. Matthews with the assistance of Allen Smith gave a brief résumé of the results of the recent election and how it affects the House and Senate. Mr. Smith explained several items which are being considered for presentation to the General Assembly when it convenes in January. Dr. Matthews discussed the proposed disposition of some legislative matters referred to the committee.

The next meeting of the Council will be held February 11, 12, 1967 at the Ramada Inn, Jefferson City.

The Councilors reported on various items of interest in their respective districts.

Meeting of February 11, 12, 1967

David N. Kerr, M.D., St. Louis, Chairman, called the meeting to order. The following persons were present: Drs. Kerr, Lysle M. Bach, Hannibal; Robert A. Mayer, Clayton; James C. Cope, Columbia; Rolla B. Wray, Nevada; Gerald L. Miller, Kansas City; Doyle C. McCraw, Bolivar; E. A. Stricker, St. James; W. D. English, Cardwell; Paul R. Whitener, St. Louis; Byron M. Stuart, Boonville; Hector W. Benoit, Jr., Kansas City; John I. Matthews, Jefferson City; Walter T. Gunn, St. Louis; Joseph V. Finnegan, St. Louis; Stanley S. Peterson, Springfield; J. Loren Washburn, Versailles; Vernon E. Wilson and William C. Allen, Columbia; Kenneth C. Hollweg, Kansas City; Flavius Pernoud, St. Louis; James A. Kinder, Cape Girardeau; George J. Lytton, Kansas City; E. A. Belden, Jefferson City. Messrs. James W. Foristel, Washington, D. C.; Arthur W. Seeds, Chicago; John W. Noble, Kennett; Mr. Herman Oligschlaeger, Missouri Division of Health, Jefferson City; Hollister Smith, St. Louis; Gary Schnedler, Springfield; James Soward, Kansas City; Lemoine Skinner, Jr., and Jordan Singleton, St. Louis; Ray McIntyre, Tom P. Fox, Allen Smith, Jefferson City; T. R. O'Brien, St. Louis.

Dr. Kerr requested approval of the minutes of the Council meeting of December 11, 12, 1966 which had been sent out to the Councilors and Officers, as well as the County Medical Societies in the usual manner. On motion of Dr. Wray, duly seconded, the minutes of December 11, 12, 1966 were approved.

Mr. McIntyre reported that a letter had been received from the AMA regarding a meeting of State Chairmen of Committees on Medicine and Religion to be held in Chicago on February 18 and 19. He reported that this was the first work-shop to be held for state committee chairmen to consider ideas and make practical plans for continued cooperative efforts in the fields of medicine and religion in all states. Because of a limited budget for this conference, the AMA requests that state associations cover the cost of transportation for their chairmen. On motion of Dr. Gunn, duly seconded, it was agreed that Dr. Kenneth Glover or another member of the Committee be requested to attend the meeting in Chicago and his expenses be paid by the Association.

Mr. McIntyre also reported that a letter had been received from Dr. William Allen, Assistant Director of the University of Missouri Medical Center, requesting the Council to appoint a representative of the Association to act as referee at the Disaster Medical Defense exercise to be held at the Medical Center on April 22. Dr. Allen explained that the students participate in this exercise along with the staff as an educational program. After discussion, on motion of Dr. Stuart, duly seconded, it was agreed that Dr. Watkins, Chairman of our Disaster

(Continued on page 571)

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Remarks of Byron M. Stuart, M.D., Retiring President

Mr. Speaker, Members of the House of Delegates:

Looking back on my year as your President, I am bound to say bluntly that I wish you had honored me with the office a year earlier or a year later or atany time other than the year just passed. It hurt me to think that my little footnote to the history of medicine in Missouri will always be linked with the time that Medicare became a law.

I hope, however, that I have learned to accept the facts of life and society as they are. If I haven't, I have missed the meaning of my presidental year. And what I have learned, it appears to me, our whole profession has also learned. We are part of a rapidly changing society in the environment of which we have to live. We cannot prescribe for ourselves, as we might for a patient in certain circumstances, a move to a more congenial climate.

So, given the climate, as Mark Twain might have said, what are we going to do about it? What can we do about it?

I believe there is a great deal we can do. And I believe the past 12 months have seen us make a good beginning of the job.

In my talk to this House a year ago, I tried essentially to say two things.

The first was that we had to close ranks to become a more united, more effective profession working together in active participation in the affairs of the Missouri State Medical Association. To achieve this would require that we find, within the Association, new mechanisms by which doctors—historically the most individualistic individuals in the country—could come to a consensus together and formulate programs that all could support in dealings with government, business, labor, insurance companies, all the forces that make our post-Medicare climate. I believe we have made progress in this direction, and I think a good measure of the credit for this goes to your new President, Hector Benoit, as well as to the Council and the Medical Economics Committee, whose report will be before you at this meeting.

I cannot put too much stress on the importance of the work I believe the State Medical Association is going to have to do in the years ahead and on the absolute need that all doctors take a much more active part in the conduct of the Association's business. The fact is that MSMA's business is going to be increasingly OUR own bread-and-butter business. What the Association does in dealing with third-party agencies and organizations will affect each of us much more directly than ever in the past.

Byron M. Stuart, M.D.

In this connection, I should like to mention the Orientation Program of the Kentucky Medical Association. Every new member of the Kentucky Society is required under the by-laws of the Association to attend a comprehensive one-day orientation seminar on the organization, operation and program of the state medical association. We have received detailed information from Kentucky on this program, and I'd like to suggest we give thought to doing something similar here in Missouri. If MSMA is going to be as important to the profession's future as I know it is, we need to get every doctor involved at the very start of his practice and keep his involvement throughout his career.

Before leaving the subject of the state association, I want to thank all the officers, councilors and members of the staff for their help and kindness to me during the past year. We have a strong team. The demands of the years ahead are going to require us to make it even stronger, and we should be prepared to understand that we are going to have to increase our support in terms equally of money and of work.

The second point of my brief talk last year was that each of us is going to have to become more of a participant in the affairs of his community, county and state. The essential first step, of course—and here professional and citizen interests coincide—is consciously to work for the best possible person-to-person relationship with patients.

More broadly, the doctor as a citizen must contribute more to the processes by which the laws of a democratic country are made. He has a double duty to himself and to his patients to see that medical values are effectively represented when legislation is being debated and, even more importantly, when elections are being held.

I hope that we may see very much stronger physician support for the Missouri State Medical Political Action Committee, which has an impressive record of effectiveness, even though it has been joined by only a fraction of the profession.

I shall now close. I thank you for the honor you have given me. I am proud of this Association. I know it will grow in strength to meet the heavier demands that are going to be put upon it.

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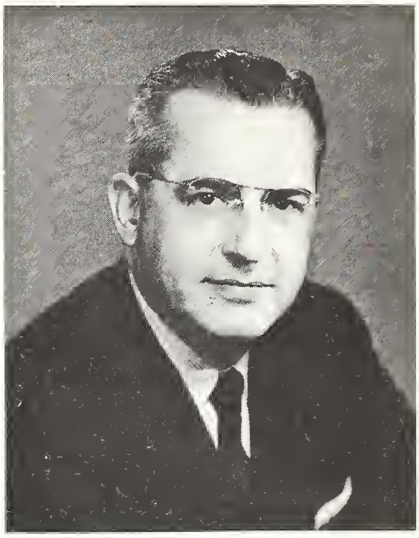
Remarks of Hector W. Benoit, Jr., M.D. Incoming President



Hector W. Benoit, Jr., M.D.

Mr. Speaker, President Stuart, Fellow Officers, Delegates, Members and Guests:

The honor of the position I will be assuming in a few days is an awesome one. The last 12 months have afforded me numerous opportunities to reflect upon the problems that we, as physicians, face and that our State Medical Association must help resolve. As I view the situation at this time, we, as individuals and as a State Medical Association, are aware of—but not as yet adapting to—momentous changes in society and the relationship we hold to that society.

The impact of these changes, highlighted by the Federal legislative measures of 1965 and 1966, is just now becoming apparent. With some foresight born of modest experience and a reasonably active imagination, it is quite apparent to me that all of us will have to change our thinking. In adapting to these necessary changes, we will have to concern ourselves with matters that most of us will find new, possibly repugnant, definitely time consuming, but vital to the best interests of our patients and ourselves.

It is time for responsible, enlightened deliberation and forceful action. We must react to our problems —they cannot be ignored or they will overwhelm us. Our goals cannot be accomplished solely by the Council and officers of the Missouri State Medical Association, nor by you as delegates, nor by the individual members acting independently. We must coordinate our efforts. The apathy and indifference displayed by many of us in the past are the most devisive forces working against us.

Much of our present situation can be laid directly at the door of this apathy and indifference. We either overcome this or our once-honored profession will be sullied forevermore.

To direct your attention to some specifics, I would point out that we are now, and will increasingly be, called upon by one or more Governmental agencies to establish reasonable fees for our services. These services will be provided to beneficiaries of one of the many government health programs either now in existence or soon to be implemented. It is not in keeping with our heritage as physicians, it is probably illegal as citizens of this country and it is impractical from our own personal selfish interests even to momentarily consider "non-participation" in these programs. Rather, we must recognize our true position in the economy of our present society.

Socio-economically, we are the purveyors of services and we must gird ourselves, unpalatable as it may be to many, to negotiate equitable recompense for these services. First and foremost, the individual physician must become cognizant of this fact. You as delegates must assume the responsibility of carrying this message to your constituents. The County and State Medical Societies must also add impact to this message.

Mechanisms must be set up so that each and every physician, regardless of his type of practice, will have a proper voice in such negotiations. The State Medical Association, as constituted by this House of Delegates, the officers and Council, must formulate such mechanisms which will be, at the same time, efficient and equitable. It is incumbent upon every physician that he help develop, modify and, of prime importance, utilize these mechanisms. If we do not take the lead, some other less interested party will do it for us.

We have to consider at this meeting, among other important issues, the reports of the Constitution and By-Laws Committee and the Medical Economics Committee, which reports you already have. These reports indicate that physician groups within the state must relate to one another and the whole State Medical Association in working out the proper lines of communication to handle the overexpanding problem of establishing reasonable compensation under various programs. This is only a beginning and a late one at that. Your officers and councillors need the help of all of you and those you represent in developing further expansion of these ideas to more satisfactorily answer the question of how we, as individual physicians, are to relate to government in our daily contacts with health services under programs such as ODMC, Title 18 and Title 19.

For example, within the next few short months, we must prepare ourselves to assume our proper role in renegotiating a contract with the Armed Forces under the recently expanded ODMC. Our past custom of requesting staff personnel to do this for us has placed them and ourselves in a most disadvantaged position. The staff has had to accept the brunt of criticism and expression of dissatisfaction from many members. We, the members, have abdicated our right to establish what our services are worth. Henceforth, we must ourselves determine our worth and demonstrate the courage of our convictions by personally negotiating such a contract through proper representatives of all groups of physicians. I have told the Council and the Medical Economics Committee, that I, as President of this Association, will sign no contract which binds the members of this Association to any scale of reimbursement for services rendered until I am fully convinced that the physicians in this state have had every possible opportunity to express their opinions and desires, through properly selected representatives, in arriving at such a contract. Today, I extend to you and through you to all members of the Association this same pledge.

You must recognize that this places a great responsibility upon the membership. They must first familiarize themselves with the many methods available for establishing fees with third party and Government agencies. Next, they must express what preference they hold regarding such methods. Finally, they must determine what their services are worth and relate such worth, through their preferred mechanism, to any contract that is negotiated.

There are several often debated, little understood and far from settled topics of discussion in this regard. These include direct billing versus assignment; maximum fee schedules, published or unpublished; usual, customary and resonable fee programs; and newest one, the prevailing fee concept.

The Council and your officers hope to provide considerable guidance in seeking the solution to this problem of establishing adequate recompense for services, but without a responsive membership, no amount of guidance can be effective.

Don't throw up your hands or indulge yourselves in thinking, "Oh, Lord, not again!" This problem is here, it is ours and it must be solved.

Another example is Title 19. This Association, our parent body, the American Medical Association, and our component societies have always expressed a genuine desire to provide health care for the indigent. In responding to an increasing awareness of the health problems of the needy, the people have, through their local, state and Federal representatives, enacted legislation to answer this problem. Although Title 18, or Medicare, was opposed by all segments of organized medicine, now that it is here, even the most outspoken critics have realized that it is not all bad. There are many features we feel are objectionable, but it is the law of the land and we have, as a profession, worked with it better than most of us thought possible. We shall continue to seek ways of changing Medicare to make it more equitable without interfering with the good features which it provides.

Title 19 in principle, as exemplified by its predecessors in the form of vendor programs and the Kerr-Mills Law, is not at variance with our time-honored promise to care for the needy. It is our responsibility as citizens and physicians to see that the people who need this help, get it. That is why this Association should again make it known to the people and their elected representatives that we urge implementation of Title 19. Such support must imply and include the willingness of physicians to actively advise the administrators of such a program, in order to insure that all the people represented by the Government, the needy who will be the beneficiaries of the program and the physicians who will provide the services are treated fairly. If we fail in this, all three groups shall surely suffer: the people, by wasteful expenditure of large sums of money; the needy, by receiving low standard health care; and the physician, by being denied the privilege of providing quality service for all patients. We must not let this happen.

There is, of course, inherent danger in physicians becoming over-involved in the matter of how health care is provided and financed. Neverthless, I am convinced physicians can no longer be satisfied with the actual provision to their patients of the best health care possible. They must be concerned with the methods by which this care is made available. To this philosophy, I have directed most of my remarks.

Let it not be said, implied or even subconsciously assumed, however, that we can in any way dilute our time-honored duty to our patients by being responsive to their needs, custodians of their confidence and, above all, their friends. If we permit this to occur, all else matters very little, indeed, for we could no longer consider ourselves members of a profession which for centuries has been held above and apart from all others, save the ministry.

Report of Mrs. Wallace R. Stacey, President of the Woman's Auxiliary

Mrs. Wallace R. Stacey

Mr. Speaker, Dr. Stuart, Members of the House of Delegates and Guests:

Traditionally, the President of the Woman's Auxiliary appears before your House of Delegates to report on the past year's activities. We sincerely appreciate this honor and will try in a brief manner to summarize our efforts.

Before going into the Auxiliary program, I should like to acknowledge what your Association does for us.

For many years, the Auxiliary President has had the privilege of contributing articles to MISSOURI MEDICINE. This year, I have slanted my articles toward one main slogan, "KNOW YOUR AUXILIARY." To really believe in something and be a staunch supporter, you should be well informed. I have attempted to give a broad picture of Auxiliary work, knowing that if you approved, you would wish your wife to be a part of this fine group and would be happy to offer your support.

You underwrite the cost of publishing *Rx Auxiliary News,* our quarterly bulletin. Some 1,900 to 2,000 copies are mailed four times a year to our own State members, to other State presidents and to certain members of the National board. In January of this year, we received a letter from the National Auxiliary President stating, "I am so grateful to receive your *Rx Auxiliary News* and commend you on the quality of its news and scope of coverage. The state newsletters are very helpful to us in determining the extent of program promotion and many other important facts about the auxiliaries."

Each year you contribute generously to our convention fund, without which we would find it extremely difficult to operate.

From your State office in Jefferson City, we have had the very best in assistance and our thanks go especially to Ray McIntyre, Executive Secretary.

We appreciate the cooperation of Dr. Byron M. Stuart, President of MSMA, and extend to him our congratulations for his successful year.

Our Advisory Council and your Executive Council have been ready to listen and advise on any problems we may have.

For your strong support we are most grateful. Without it we could not hope to progress.

And now for a thumbnail sketch of your Auxiliary. We total 1,836 in memberships over 1,811 last year, even though one auxiliary (Marion-Ralls-Shelby with 21 members) voted to disband. There are 28 organized county auxiliaries. We would, of course, like to continue increasing our membership. We wish to extend an invitation to all your wives to attend Auxiliary sessions which open at 9 o'clock in the morning on the Starlight Roof. Assure your wives that a warm welcome awaits them whether or not they are members.

The Woman's Auxiliary of Missouri is well recognized on the national level. It was founded in 1924 under the guidance of Mrs. Willard Bartlett of St. Louis, who also helped organize the National Auxiliary of which she is now an honorary member. Mrs. George H. Hoxie of Kansas City, now deceased, was President of National in 1929-30. In 1931-32, the National Auxiliary President was Mrs. Arthur B. McGlothlan who is a resident of St. Joseph. The Immediate Past President is Mrs. Richard A. Sutter of St. Louis. In 43 years of National Auxiliary history, Missouri has had three presidents and an honorary member.

Our annual Fall Conference in St. Joseph during October was attended by 100 members and guests. One of the highlights was the visit and address by our National Auxiliary President, Mrs. Asher Yaguda. Another high point was the program presented by the State Community Service Chairman on "Venereal Disease and the Teenager." Approximately 100 school and civic organization leaders in St. Joseph were invited to view this program as guests of the State Auxiliary and Buchanan County. This was publicized and illustrated with pictures in the National magazine, *M.D.'s Wife*, the *AMA News* and *PR Doctor.*

We were asked this year by MSMA to send a representative to your new Committee on Nursing and Paramedical Careers, chaired by Dr. John Walters. We have long been active in this field through our standing committee on Health Careers. I should say this is among the strongest functioning committees in our organization along with Future Nurses' Clubs, Candy-Striper programs, Health Career Clubs, scholarship funds for nurses (which have totalled well over $3,000 this year), career days in high schools and distribution of the literature available to us. We have no operating budget for this committee, so you can see that we are primarily restricted to what can be accomplished through volunteers. We welcome the opportunity to be of service to you in this or any other endeavor. Your organization and ours can reach greatest potential only when we find areas for cooperative work.

Time will not permit detailed accounts of our work in the various fields. We have carried on in the usual manner in our standing committees of International Health, Legislation, Mental Health, Disaster Preparedness and Safety and Rural Health. I believe you would be very pleased with our many accomplishments.

The State Auxiliary has a dual responsibility to the National Auxiliary and to you, its parent body. The State Auxiliary also has a serious responsibility to county auxiliaries: (a) to interpret the aims and purposes of National; (b) to lead and direct state work; and (c) to advise and guide on the local level. A strong effort has been made this year to acquaint each county auxiliary with the purpose and work of their Auxiliary and their relationship to the State and National. United we are more than 90,000 women in the United States and can offer much stronger programming than is possible with as many individual efforts. In trying to accomplish this, I have made visits to 24 auxiliaries, two National meetings, one National workshop, two out-of-state annual meetings, Southern Medical Auxiliary meeting and numerous meetings of other organizations relating to the field of health.

We need to expand our program in keeping with National suggestions. We need to expand our budget to afford (1) some secretarial help for the President whose load has reached a physical peak, (2) more allotment for the budget for carrying out the program; and (3) some provision for an interchange of ideas by inviting officers of border states as guests to our meetings.

In being of service to our husbands, our homes, our communities and our country, there are two areas in which we are particularly suited: (1) the field of legislation and (2) in the area of public relations. Each doctor's wife, whether she likes it or not, is or can be a strong force in her own community. She can help to educate on legislative matters and to interpret the views of the profession without at any time infringing upon scientific areas.

In my opinion, the State Auxiliary is on the threshold of much greater opportunities and accomplishments than ever before in its history. For many years, we have maintained approximately the same membership and have operated on the same budget of $1800.00. It is now time for us to take another leap forward. In the words of Philip Brooks:

> "Bad will be the day for every man when he becomes absolutely contented with the life that he is living, with the thoughts that he is thinking, with the deeds that he is doing, when there is not forever beating at the doors of his soul some great desire to do something larger, which he knows that he was meant to do because he is still, in spite of all, the child of God."

Annual Session Minutes (cont'd)

Medical Defense committee, be requested to attend this meeting on April 22 in Columbia.

Mr. McIntyre reported that the Missouri Commission on Higher Education, which was established by the Legislature a few years ago, has under consideration now a comprehensive study of medical manpower and of existing resources for educating physicians in Missouri. He mentioned that a number of items were under consideration for this study, such as, the number and distribution of medical and osteopathic physicians by age and specialty; the ratio of such medical personnel to population; identification of schools which provided the professional education of physicians now practicing in Missouri; information concerning approved internship and residency programs; a study of Missouri schools of medicine and osteopathy to determine the proportion of their graduates locating in Missouri. Dr. Wilson and several others commented on this project, but no action was taken by the Council.

Dr. Gunn presented a brief report of the financial status of the Association stating that as of January 31, 1967, the total cash on hand was $34,981.72. He also stated that the financial result of activities of the Association for the year 1966 was an excess of expenses over income of $6,600.31. He reported that the 1966 audit of the Association's accounts would be published in the March issue of Missouri Medicine and will also be included in the Delegates' Handbook for the 1967 Annual Session.

Dr. Gunn also reported that our investment broker had advised the Association regarding some stock investments which were deemed advisable. After discussion, on motion of Dr. Stuart, duly seconded, it was agreed that the Association follow the advice of the investment broker and that the Treasurer's Report be accepted.

Mr. O'Brien reported on the ODMC program up to date stating that Bulletin No. 1 had been sent to the membership in January, 1967, and that Bulletin No. 2 which pertains to Retirees would be sent shortly, and another Bulletin, No. 3, pertaining to retarded and physically handicapped dependents would be sent as soon as possible. He briefly reviewed the discussion at the last Council meeting and reported that following the recommendations of the Council, he had physicians of various specialties check the schedule of benefits which had been sent to him from ODMC and make suggestions for improvement. Most of them thought the schedule was a fair one, others had some suggestions which were submitted to ODMC. He reported that the entire schedule had been increased for 1967, some fees more than others, but on the average there was a 17 per cent increase, and in any case, there were none increased less than 10 per cent.

After further discussion, on motion of Dr. Wray, duly seconded, it was agreed that the committee, presently functioning, plus some additional names, be continued to review certain cases now on hand for payment by the fiscal administrator and that the Council take immediate steps to contact the state specialty groups and the Missouri Academy of General Practice for their opinions and study regarding handling of these matters in the future.

Dr. Benoit further discussed the possibility of forming a MSMA committee to advise on and handle all contracts or arrangements on fee schedules with government or other third parties where the MSMA is involved prior to acceptance by the Council or House of Delegates.

After discussion, on motion of Dr. Miller, duly seconded, it was agreed that this be referred to the Medical Economics Committee with the request that they meet immediately to consider this question with representatives of state-wide specialty groups, including the Missouri Academy of General Practice. It was also suggested that a letter be sent to these specialty groups and the MAGP requesting they appoint an official representative to speak for their group in this regard at the meeting called by the Medical Economics Committee. It was agreed that the Medical Economics Committee should present a definite program as to how MSMA should handle fee schedules and contractual arrangements with third parties to the Council at its meeting on April 6, 1967.

Mr. James W. Foristel gave a brief report of the situation on National legislation as it relates to medicine and discussed the make-up of various committees of Congress which will handle legislation of special interest to the medical profession.

He also gave a summary report of the problems concerning the Medicare situation after a six months period, stating that hospitals, physicians and patients are experiencing long delays in receiving payments. He stated a number of Congressmen are receiving numerous letters of complaints from patients.

He reported that in the first six months, 2.5 million people received 1 billion dollars worth of hospital care, while 3.5 million persons received physician's care costing approximately 100 million dollars. Mr. Foristel also gave a brief run-down on the amendments suggested by the AMA to Title 19 (Medicaid Act) which will be presented by their representative at the hearings scheduled for the second week in March. He also called attention to an article in *U. S. News and World Report*, January 23 issue, page 64, stating this was an excellent article.

Dr. Pernoud presented a report of the Committee on Eye Health which met on February 8 in Jefferson City. The Committee discussed several items and requested Council approval on them as follows:

Contact Lens Service—The Committee considered and amended a proposed bill prepared by MSMA legal counsel covering contact lens service performed by opticians, for introduction to the 74th Missouri General Assembly, which includes definition of services performed by opticians. After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that the proposed act relating to contact lens service be submitted to the 74th General Assembly of Missouri.

The Committee recommends in the case of the State ex Rel vs. Curteman, in which motion is pending to make MSMA a party, that MSMA participate in said suit for protection of the public welfare and to prevent the practice of medicine by those not authorized or qualified. After discussion, on motion of Dr. Benoit, duly seconded, the Council adopted this recommendation of the Committee.

Fireworks Injuries—The Committee, having considered H.B. 131 introduced in the 74th Missouri General Assembly, recommended that the Council support the intent of the bill to prevent personal injuries to the public. The Committee requested that Dr. Truman Schertz be authorized by the Council to represent the MSMA at the hearing to be held on Monday evening, February 13, on H.B. 131.

On motion of Dr. Cope, duly seconded, the request that Dr. Schertz appear for MSMA at the hearing in

Senator Edward V. Long joins Mrs. Byron M. Stuart in applauding remarks made by Doctor Stuart as he presided at the Presidents' Banquet.

support of the intent of the bill to prevent personal injuries to the public was approved.

Liaison with Missouri Optometric Association—The Committee approved continued liaison between the executive offices of the Missouri Optometric Association and the MSMA in Jefferson City. It was reported that the invitation from MOA to meet jointly is still under consideration.

After discussion, on motion of Dr. McCraw, duly seconded, it was agreed that the Committee on Eye Health continue liaison with the Missouri Optometric Association as they see fit.

On motion of Dr. Whitener, duly seconded, the full report of the Committee on Eye Health was approved.

Dr. Hollweg presented the report of the Committee on Constitution and By-Laws, stating that the 1966 session of the House of Delegates authorized a Committee on Specialty Medicine Groups be established as a standing committee of the Association. To implement this the Committee proposes a MSMA By-Law change as follows: "Amend Chapter VII, Sec. 2, Page 8, By-Laws revision 1966, after, 'A Committee on Legislative Matters,' by adding the following: 'A Committee on Interspecialty Medicine.'" And further amend Chapter VII, Page 10, immediately before Sec. 3, by adding the following: "The Committee on Interspecialty Medicine shall be composed of one representative from the presently formed statewide specialty groups, listed herein, and others which may be formed in the future: Missouri Ophthalmological Society; Missouri Pathological Society; Missouri Academy of General Practice; Missouri Radiological Society; Missouri Society of Internal Medicine; Missouri Surgical Society; Missouri Society of Anesthesiology; Missouri Academy of Psychiatry; Missouri Chapter, American College of Chest Physicians. The President shall appoint annually to this committee a representative from each group after consultation and recommendation by each group. This committee shall be charged with the responsibility of reviewing organizational problems with respect to scientific programs, socioeconomic and legislative matters that affect their particular specialties and other subjects of interest. Reports from this Committee shall be made periodically to the Council as well as to the House of Delegates."

Discussion followed regarding a proposal from the Auxiliary for joint husband-wife membership as it relates to our Association which had been referred to the Committee on Constitution and By-Laws for study and recommendation. It was reported that after correspondence with other state associations and consultation with our legal counsel, the Committee recommended that the advice of legal counsel be followed, i.e., that until the Auxiliary obtains tax exempt status, under IRS Section 501 (c) (6), joint billing is hazardous.

After further discussion, on motion of Dr. Whitener, duly seconded, it was recommended that the Woman's Auxiliary to MSMA take steps to become a tax-exempt organization with the understanding that the matter of joint husband and wife membership be further considered when the Auxiliary obtains tax exempt status.

On motion of Dr. Stuart, duly seconded, the Report of the Committee on Constitution and By-Laws was approved.

Discussion followed regarding MMPAC's request for joint billing with MSMA dues billing which has been under study by our legal counsel. On motion of Dr. Benoit, duly seconded by Dr. Miller, it was agreed that if MMPAC desires to bill jointly with MSMA and the component societies that it be permitted to do so upon paying its proportionate share of the cost of such joint billing, provided that MMPAC funds collected at the county society level be handled separately on the local level from all medical society funds and be separately forwarded by such societies directly to MMPAC.

Dr. Benoit presented a report of the Conference on Regional Medical Programs which he attended in January in Washington, D. C. He stated that considerable material was furnished prior to the Conference and that most of it was difficult to understand. He reported they had discussion groups that ran several hours the first day and on the second day groups of officers of state medical associations, national organizations and specialty organizations discussed the program in relation to physical facilities to provide extension of services to persons under the program, also renting facilities for office space for regional programs or even construction of new facilities for administrative purposes. He stated most discussion groups went along with Dr. DeBakey's approach regarding these programs. He felt that there was much confusion in the minds of most of those at the Conference regarding this entire program. Dr. Wilson also attended the Conference and gave a brief report. He mentioned that a complete report is being compiled and would be available later.

Dr. Benoit reported on three bills which have been drawn up by this Committee, namely S.B. 74, which would create a Board of Health with seven members appointed by the Governor; S.B. 75 which deals with the qualifications of the Director of Health; and S.B. 76 which provides for the establishment of the salary maximum of $25,000 per year for the Director of Health.

Dr. Matthews, chairman of the Committee on Legislative Matters of MSMA, reported that his committee reported favorably on all three of these bills at its meeting on Friday evening, February 10.

After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that S.B. 74, 75 and 76 be endorsed by the Missouri State Medical Association Council.

On motion of Dr. Cope, it was agreed that the Executive Secretary report this action to the Chairman of the Advisory Committee to the Division of Health.

Dr. Matthews reported that the Committee on Legislative Matters met on Friday evening, February 10, to discuss pending medical and health legislation in Missouri. He stated that the Committee reviewed S.B.'s 53,

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References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

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54 and 55, which involve partial implementation of Title 19 and which have already been heard before a Senate Committee. He stated that the Legislative Committee was in favor of all three of these bills. On motion of Dr. Matthews, duly seconded by Dr. Benoit, it was agreed that the Council approve S.B.'s 53, 54 and 55, and that a statement of policy be prepared on H.B. 94, dealing with full implementation of Title 19 as expressed by the MSMA 1966 House of Delegates, for submission to the appropriate committee of the House.

S.B. 101 dealing with an increase in salary for the Director of the Division of Mental Diseases was endorsed by the Council as well as by the Committee.

S.B. 122 dealing with mental patients being placed in suitable boarding, licensed nursing homes or family homes was discussed and on motion of Dr. McCraw, duly seconded, it was agreed to endorse this legislation. H.B. 152—Physical Therapist licensure bill was discussed and it was pointed out that a substitute proposal should be introduced to place the physical therapists under the supervision of the Board of Healing Arts. On motion of Dr. Stuart, duly seconded, it was agreed that the Council go on record as approving a substitute bill to H.B. 152 as presented by Dr. Matthews.

H.B. 303—Chiropractic Practice Act. This bill was considered by the Legislative Matters Committee with recommendation that certain changes be made in this proposed act. After discussion, on motion of Dr. Matthews, duly seconded, it was agreed that the Council approve the action of the Legislative Matters Committee to submit an amendment to H.B. 303 which would allow X-ray for roentgenograms of the vertebral column only. Also an amendment was approved to delete the following subjects from the Chiropractic Board examination: "X-ray for chiropractic analysis, bacteriology, chemistry" and to substitute in lieu thereof, "X-ray of the vertebral column only." It was recommended that the training period for chiropractors remain as required in their present practice act.

H.B. 19 relating to fraudulent and misleading advertising was discussed but no position taken.

The Committee requested some help as to how to proceed if and when a request should be received in regard to giving expert medical testimony on legislative proposals. On motion of Dr. Benoit, duly seconded, it was agreed that the chairman of the Legislative Committee and the Executive staff be authorized to request members of MSMA to appear before committees of the legislature for the purpose of giving expert medical testimony when requested.

Dr. Stuart reported on a number of meetings he had attended which included the installation of officers of the St. Louis Medical Society on January 10, and installation of officers of the St. Louis County Medical Society on January 11, both in St. Louis. He also attended a meeting of the Chariton-Macon-Monroe-Randolph County Medical Society in Moberly in February, all of which he reported were very good meetings.

Dr. Washburn reported on a number of items which were discussed at the Las Vegas meeting of the AMA and also during the last Council meeting in December. He mentioned the recruitment of medical students who will go into family practice, stating that these would probably have to come primarily from the rural areas and that some method of financial assistance would be necessary.

Mr. Fox gave a brief report on the Missouri State Medical Foundation, stating that 35 medical student loans were approved for the present semester in the

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Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

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amount of $21,600. He stated the total amount of money on hand is $28,053, which includes a time deposit for six months of $19,084. He reported that the annual solicitation letter which went out in December, 1966, resulted in a total amount of $1,460 received. In addition, he said, some of the local societies encouraged local pharmacies to contribute and $1,000 was received from pharmacies. The West Central Medical Society contributed $500 to the Foundation.

Dr. Peterson reported that the Greene County Medical Society loan fund has loaned $80,000 to medical students. Eight of their loan students have started repayment of their loans.

Discussion followed regarding material to be included in the Delegates' Handbook and it was suggested that county medical societies send in their resolutions as soon as possible so that they could be included. It was stated that the handbook would be sent out about 30 days in advance of the session so that the delegates could study the material and be ready for discussion at the session. Mr. McIntyre reported that the financial statement would be included in the handbook, as well as in the March issue of Missouri Medicine. He also stated that the Annual Session of the Foundation will be held at the time of the MSMA Annual Session, on Friday afternoon immediately after the second session of the House of Delegates.

Dr. Kinder presented the report of the Committee on Infant and Child Care which met on January 8. He called attention to a revised immunization schedule and booklet to be distributed to school administrators and teachers and requested Council approval on this revised form. After discussion, on motion of Dr. Benoit, duly seconded, the revised immunization schedule approved.

Dr. Kinder reported that the Committee approved a suggestion for introduction of a School Health News publication, stating that Mr. Herman Oligschlaeger of the Missouri Division of Health had experience in such publications. It was stated that funds would be available from the Division of Health to publish such a news organ, but the Committee requested that the program be co-sponsored by the Missouri State Medical Association. After discussion, on motion of Dr. Benoit, duly seconded, it was agreed that this portion of the report as it relates to the MSMA as co-sponsor, be approved.

Dr. Kinder called attention to the discussion on the new PKU Detection Law which is being administered by the Missouri Division of Health and the Difficulties in getting the hospitals to report. He mentioned the Division of Health is planning to mail copies of the new regulations with a covering letter to all Missouri physicians and hospitals alerting all responsible parties to the requirements of the law. The Committee requested Council approval on (1) "Rules and Regulations Governing a Test for PKU" and (2) "Feeding the Child with PKU"—Physicians Handbook.

After discussion, on motion of Dr. Mayer, duly seconded, the Council approved the distribution of the above mentioned booklets.

Dr. Kinder called attention to a two-day conference on "Learning Disabilities of Children" which will be sponsored by the St. Louis County Medical Society, April 28-29, 1967 at the Ladue Junior High School Building.

Discussion followed regarding pilot programs on physical fitness being developed at Southwest Missouri State College. It was pointed out that this was a strenuous program and students should not be permitted to participate in such programs without a previous physical examination by their physician.

After further discussion, on motion of Dr. Benoit, duly seconded, the report of the Committee on Infant and Child Care was accepted.

Dr. Mayer, Councilor of the 4th District, presented a motion from the St. Louis County Medical Society suggesting that any applicant for membership in any component society accepted for membership after October 1 may not be charged any dues for the remainder of that calendar year by Missouri State Medical Association provided the component society likewise does not charge the new member any dues for the remainder of that calendar year.

He pointed out that in October when St. Louis County Medical Society delegates were elected they thought they were entitled to 15 delegates according to the number of members in their Society. However, when the official count was given in the 1966 Audit report, as of December 31, 1966, they were only entitled to 13 delegates. This was caused by one member who had transferred, one deceased, and seven members elected to membership the latter part of the year who paid no 1966 dues, so their membership became effective January 1, 1967.

Mr. McIntyre reviewed the actions of the House in 1958 when the House approved a recommendation of the Council that physicians joining MSMA after June 30 would only be required to pay one-half of the yearly dues for the balance of the year. After further discussion, the motion presented by the St. Louis County Medical Society was defeated.

The Councilors reported on various items of interest in their respective districts.

It was reported that the next meeting of the Council will be held during the Annual Session, on Thursday morning, 8:30 a.m., at the Chase Hotel in St. Louis, April 6, 1967.

Dr. Kerr then presented a supplementary report on the Council meeting of Thursday, April 6, 1967, prior to the opening of the Annual Session. He reported as follows:

"Mr. McIntyre reported that the American Medical Association has requested that an official MSMA representative attend the 11th National Conference on Physicians and Schools, October 4 through 7, 1967. The request was referred to the Committee on Infant and Child Care. He next reported the request that MSMA continue support of the Student AMA and again make our customary contribution of $100. The Council voted to make the contribution again.

"Next, the MMA asked the Association to designate an official representative to attend the inauguration of the new president of the University of Missouri. The Council directed that the President designate a physician to represent the Association at this event.

(The Speaker referred the above portion of the report to the Committee on Reports of Officers.)

"The report of the Committee on Alcoholism was made by Dr. Joseph Kendis, Chairman, who also presented the following resolution:

Whereas, Alcoholism continues to become an increasing problem in its effect upon all walks of life including problems directly affecting industry, labor and the general welfare of every community; and

Whereas, Alcoholism is a disease and the treatment of such is needed as is the treatment of other diseases; and

Whereas, Acute alcoholic intoxication can be and often is a medical emergency, and treatment as such should be evaluated and provided, therefore, be it

Resolved, That the Missouri State Medical Association urge general hospitals and hospital administrators to accept the responsibility to contribute to this purpose by admitting alcoholics to open medical beds the same as is done for other diseases; and be it further

Resolved, That it recommend to the insurance carriers that alcoholism be considered, as are other diseases, for coverages in insurance policies; and be it further

Resolved, That provision be made by insurers for coverage of hospitalization and treatment as in the coverage of other diseases; therefore, be it

Resolved, That copies of this resolution be sent to all Missouri hospitals and to all Missouri insurance carriers.

"After discussion, the Council approved the resolution and recommends it to the House of Delegates for adoption.

(The Speaker referred the resolution to the Reference Committee on Medical Education.)

"Dr. James G. Janney, Chairman of the Committee on Study of Cardiac Diseases, commented on the report of that Committee. He stated that the Committee conducted a poll of its members regarding the Greene County Resolution (Resolution No. 5 in the Delegates' Handbook), approved the principle of the resolution and asked Council authorization for Dr. Janney and members of the Committee to appear before the Reference Committee to recommend minor changes in the wording. This request was approved by the Council.

(The Speaker referred this request to the Reference Committee on Miscellaneous Affairs.)

"Dr. Herbert C. Wiegand, Chairman of the Medical Economics Committee, reported that that Committee had held a special meeting with representatives of specialty practice groups in Missouri on March 12, 1967, in St. Louis. This, briefly, was a report of progress in developing a mechanism for dealing with third parties where fee schedules and contracts are to be negotiated and implemented involving MSMA and will be referred to an appropriate reference committee. After extensive discussion, the consensus of the Council appeared to be that urgent and immediate steps be taken to implement the recommendations of the report as follows:

1. A committee called a Medical Economics Contract Committee be formed to be composed of:
    a. MSMA Economics Committee and chaired by its chairman.
    b. The Committee on Interspecialty Medicine of MSMA and a designated representative of any other specialty groups desiring a representative and appointed by the President of MSMA.
    c. An ex-officio legal advisor provided by MSMA.
    d. Ex-officio: or President of MSMA and Chairman of Council of MSMA.

For the purpose of recommending to the Council of MSMA a means or basis of fee determination with which the Council may empower this Committee to negotiate any future MSMA third party fee contract agreements.

2. Members of this Committee will discuss with their parent groups fee schedule methods, using as points of departure:
    a. Present prevailing fees as currently charged by their current group colleagues.
    b. The California relative value schedule.

"The Council approved the recommendation of the Committee on Medical Economics and adopted a motion that the Council recommend that all divisions of medicine be organized in statewide groups by type of practice so that such groups may all have representation on the Committee on Interspecialty Medicine and that such organization be done as soon as possible.

(The Speaker referred this resolution to the Reference Committee on Resolutions, noting that the area concerning the groups that are named and any change in the Constitution would fall under the jurisdiction of the Committee on Constitution and By-Laws.)

"A discussion was held on the matter of MMPAC-MSMA joint billing on which the Council took favorable action at its September meeting at the request of MMPAC. After hearing a brief analysis by legal counsel, the Council adopted a resolution to implement its September action.

"The resolution concerning joint MSMA-MMPAC Billing and dated April 6, 1967, reads as follows:

Whereas, The Missouri Medical Political Action Committee has requested a joint billing with Medical Association dues for the convenience of members of MSMA and has agreed to pay any additional costs thereof, and

Whereas, MMPAC provides educational programs worthy of support by the members of the Association, and

Whereas, Many members desire the convenience of a single billing combining the dues for their local, state and national medical organizations with a bill from MMPAC, now therefore, be it

Resolved, That local component medical societies may request the MSMA Headquarters office, in furnishing the annual billing notices for members, to itemize the statements for the American Medical Association, Missouri State Medical Association and local medical society dues, and combine these with a statement of MMPAC dues to be purely voluntary, as long as the local society agrees to handle MMPAC funds collected at the local level separately from all medical organization funds, and also agrees to forward such MMPAC funds directly to MMPAC.

(The Speaker referred this resolution to the Reference Committee on Reports of Officers.)

"Dr. Washburn reported for the AMA delegates regarding the AMA Group Disability Insurance stating that further information would be forthcoming from the AMA and the Board of Trustees had decided to defer action on the matter until the June meeting of the AMA House of Delegates.

(The Speaker referred this report to the Reference Committee on Reports of Officers.)

"I asked Dr. Merritt L. Gentry of the Missouri Division of Health to comment on House Bill 734 which relates to Home Health Services. After discussion, the Council voted to support this proposed legislation.

(The Speaker referred this recommendation to the Reference Committee on Miscellaneous Affairs.)

"The Chairman of the Council asked Dr. Matthews to report on Health Legislation in the State of Missouri. Dr. Matthews reported that House Bill 152, setting up a separate Board for licensing of physical therapists, was passed out of the House Committee on Public Health, even though MSMA has offered a substitute bill embodying the umbrella concept of having paramedical groups seeking certification or licensure placed under the jurisdiction of the State Board of Healing Arts. The original bill has been passed by the House and has been referred to the Senate Public Health and Welfare Committee. This portion of the report was approved.

(The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.)

"Senate Bill 389, concerning the regulation of clinical laboratories by state law, has been introduced. Members of the Laboratory Committee and the Missouri Society of Pathologists have discussed the measure with the sponsor and representatives of the Division of Health, the Board of Healing Arts and other persons, including laboratory technicians. One of the problems involved is consideration of a bill for certifying or licensing laboratories and a separate bill to certify or license laboratory technicians under the State Board of Healing Arts under the umbrella concept. The certification of or licensing the laboratories themselves is being considered under the jurisdiction of the Division of Health.

(The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.)

"Dr. Matthews recommended that these proposals be followed carefully. He then reported on House Bill 303 concerning the expansion of the Chiropractic Practice Act that was blocked in the House. He commended the members who contacted their representatives and expressed their opposition. He then discussed House Bill 253, a bill to define chiropractors as physicians in the Workmen's Compensation Law. This bill was killed in committee.

"Dr. Matthews reported that another chiropractic bill, House Bill 538, was introduced and would authorize chiropractic services under the Workmen's Compensation Law. The Council voted to oppose this bill.

(The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.)

"House Bill 440 was recommended, 'Do Pass,' by the House Judiciary Committee and is now up for consideration by the House."

(The Speaker referred this matter to the Reference Committee on Miscellaneous Affairs.)

"Dr. Matthews requested that Dr. Benoit discuss Senate Bills 74, 75 and 76, as they had been amended. These bills are concerned with the creation of a seven member State Board of Health. Dr. Benoit recommended that, even after amendment, these bills should be supported by MSMA.

(The Speaker referred this recommendation to the Reference Committee on Miscellaneous Affairs.)

"The Council voted to support Senate Bill 302 which would require an internship or residency as a condition for licensure to practice in the State of Missouri."

(The Speaker referred this report to the Reference Committee on Medical Education.)

"The Governor's program for partial implementation of Title 19, as embodied in Senate Bills 52, 53, 54 and 55, is moving forward. Dr. Matthews reported, however, that there is some possibility that full implementation of the mandatory requirements of Title 19 might still be brought about in this session of the legislature.

(The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.)

"House Bill 94, which was introduced in the House to implement Title 19, is still being heard by a House Committee.

(The Speaker referred this report to the Reference Committee on Miscellaneous Affairs.)

"Dr. Whitener moved that the Legislative Committee report be approved in toto."

The Speaker then referred the financial report for 1966 and the budget for 1967 to the Committee on Reports of Officers. He noted that the budget is published on page 77 of the MSMA Official Report booklet.

The Speaker invited society resolutions.

Dr. George L. Hawkins offered a resolution from the St. Louis Medical Society concerning Utilization Review Committees:

Whereas, To be effective, Utilization Review Committees are to be composed only of physicians and to serve only an internal function for the benefit of the patient and information of the hospital staff, therefore be it

Resolved, That they are not obliged to serve as investigative bodies for any non-physician agent either inside or outside of the hospital, and be it further

Resolved, That any physician who engages in such function on a Utilization Review Committee be declared guilty of a disservice to his fellow physicians.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. Hawkins introduced a resolution from the St. Louis Medical Society concerning Hospital Certification Under Medicare:

Whereas, The impact of increased paper work becomes progressively more oppressive on the practitioner of medicine, and

Whereas, It has been stated by at least part of the authoritative agencies in the Department of HEW that an adequate admission note by the attending physician in the hospital chart and adequate progress notes in the hospital record are satisfactory evidences of certification and recertification, therefore be it

Resolved, That the Missouri State Medical Association, its component Societies and member physicians take a stand that the insistence that separate forms on Medicare patients, in addition to this adequate certification and recertification, not be filled out.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. Hawkins introduced a resolution concerning the AMA Institute of Biomedical Research:

Whereas, Medical Research is engaged in by various educational institutions and by many segments in our free enterprise business community, such as pharmaceutical houses and chemical corporations, and it is further subsidized by the Federal government in a multimillion dollar venture, and

Whereas, The medical profession, more than any other group, realizes that medical research is an invaluable function and that medical research must have direction and purpose, and

Whereas, The American Medical Association is primarily not a scientific research organization in the present environmental setting, therefore be it

Resolved, The American Medical Association divest itself of its Institute of Biomedical Research.

(Referred to the Reference Committee on Medical Education and Public Welfare.)

Dr. Hawkins introduced a resolution concerning fees to the State Board of Healing Arts:

Whereas, The Missouri State Board of Healing Arts acts as an agency to govern the practice of the Healing Arts in the State of Missouri, and

Whereas, The Board functions for the welfare of the entire citizenry of Missouri, and

Whereas, The physicians are willing to pay a registration fee to support the Board so that the standards of the practice of the Healing Arts are maintained, and

Whereas, The fees for the Board of Healing Arts are turned over to the General Fund and exceed by 25 to 30% the funds appropriated by the Legislature to support the Board's work, therefore be it

Resolved, That the State Legislature be petitioned to change the law in order that the monies accruing to the State Board of Healing Arts be devoted entirely to the Board of Healing Arts for work by that Board and not accrue to the General Fund of the State of Missouri.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. James T. Brown submitted a resolution from the Greene County Medical Association:

Whereas, Three important techniques are now widely used in cardiac resuscitation: 1) mouth to mouth, bag or other mechanical breathing devices, 2) closed chest cardiac massage, 3) the external defibrillator, and results of these techniques have been greatly rewarding and often quite dramatic; and

Whereas, Complications can arise from these techniques, but if these three procedures listed above are not promptly employed, the outcome will almost surely be fatal and, faced with this alternative, the risks involved seem quite small; and

Whereas, Time is a key factor in obtaining success in cardiac resuscitation, and prompt total therapy, including the use of the external defibrillator when indicated, is the most effective method of overcoming all the problems of cardiac arrest; and

Whereas, Most hospitals in Missouri do not have house staff coverage, and times most certainly arise when there are no physicians present in the hospital; therefore, many precious minutes elapse before definitive resuscitation can be carried out which rapidly diminishes the chance of success; and

Whereas, The obvious solution is the utilization of the specially trained registered nurse, the only person instantly available at the time an arrest occurs who is capable of carrying out complete cardiac resuscitation, including the use of the defibrillator prior to the arrival of the physician; and

Whereas, Registered nursing personnel already employ the techniques of emergency ventilation and closed chest massage, training in the use of the defibrillator is all that is lacking; and

Whereas, Practically all leading authorities in this field recommend that key registered nursing personnel be trained in the recognition of fatal arrhythmias and in the use of the defibrillator; and

Whereas, Many centers around the country already use registered nurses in this role; and

Whereas, The medical, nursing and hospital associations of several states have already adopted joint statements extending the role of the nurse to cover this area; therefore be it

Resolved, That the Missouri State Medical Association adopt the following statement on defibrillation; and be it further

Resolved, That, after adoption of the following statement, copies be sent to the Missouri Nursing Association and Missouri Hospital Association in anticipation that the statement will ultimately be adopted as a joint statement of these three associations.

(Referred to the Reference Committee on Medical Education and Public Welfare.)

A resolution was submitted by Clay County Medical Society concerning Title 19:

Missouri's Senator Edward V. Long emphasizes a point as he addresses the 1966 Presidents' Banquet in St. Louis.

Whereas, The question of implementation of Title 19 is being discussed by state and municipal authorities at this time, and

Whereas, The Clay County Medical Society does not want to discuss the merits of this law for Missouri at this time, it still feels that in the event that such a law is approved, it will be easier for the authorities to have professional advice before, rather than after, the law has come into effect, therefore be it

Resolved, That the Missouri State Medical Association goes on record, in accordance with the recommendations of the House of Delegates, that use of a usual and customary fees program as well as direct payment billing is mandatory to insure the cooperation of the main body of physicians.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Clay County Medical Society Resolution No. 7 relating to certification for hospital admission was withdrawn.

The speaker invited new resolutions from the floor.

Dr. Arthur W. Neilson submitted the following resolution from St. Louis Medical Society:

Whereas, Missouri State House Bill 319 relating to Water Pollution and strengthening our present State Water Pollution Laws has passed the House and has been referred to the Senate, and

Whereas, The St. Louis Medical Society on November 8, 1966, passed the following resolution on Water Pollution

"We, as physicians of the St. Louis Medical Society, concur with the concept that pure water is a necessity for human life. Water which is befouled by chemicals and organic wastes of all kinds threatens the health of the people of this community.

We firmly support all efforts made by the Missouri Department of Conservation and other interested organizations who are concerned with the problem of water pollution.

As physicians, we offer to help in whatever way possible to further efforts to solve the water pollution problems in the St. Louis area. We also offer the facilities of the St. Louis Medical Society Library and the Society's membership as a consultative pool of information in solving water pollution problems," and

Whereas, The Missouri State Medical Association has not as yet taken a position with regard to this important health problem which should be of concern to all physicians, therefore be it

Resolved, That the Legislative Committee of the Missouri State Medical Association be instructed to prepare a resolution strongly supporting all efforts made by the Missouri Department of Conservation, the Conservation Federation of Missouri and many other organizations who are concerned with the overall effect of Water Pollution and its effects not only on wildlife and the resources of the earth, but also its productive soil, its forests and plant life and this inter-relationship with the health of human beings and animals useful in various ways to mankind, and be it further

Resolved, That the Missouri State Medical Association Council take immediate action in this direction and that copies of this resolution be forwarded to the Conservation Federation of Missouri, the Missouri Department of Conservation, the Missouri State Health Department and the Mayors of the large urban areas and the Governor of the State of Missouri.

(Referred to the Reference Committee on Miscellaneous Affairs.)

A resolution from Greene County Medical Society concerning Durward G. Hall, M.D., was introduced:

Whereas, Dr. Durward G. Hall has distinguished himself as a physician and surgeon; and

Whereas, Dr. Hall has served many years in a distinguished manner as a member and President of the Greene County Medical Society, as a member of the Missouri State Medical Association and as a Delegate to the American Medical Association; and

Whereas, Dr. Hall is continuing to carry on his tradition of service as a Member of the House of Representatives of the United States of America; and

Whereas, The Greene County Medical Society has, at its regular meeting March 24, 1967, unanimously elected him to Honorary Membership; therefore be it

Resolved, That Dr. Hall be elected to Honorary Membership in the Missouri State Medical Association with all honors, rights and privileges generally associated such a high honor; and be it further

Resolved, That Dr. Hall be sent a special invitation to attend the Annual Banquet of the Association Saturday, April 8, 1967 at which time this resolution be presented in his behalf.

It was moved, seconded and approved that the Bylaws be suspended and the resolution that Dr. Durward Hall be made an honorary member of the Missouri State Medical Association by acclamation be passed unanimously.

Dr. W. R. Richardson introduced a motion from Franklin-Gasconade-Warren County Medical Society:

Whereas, Blue Cross in their contract with hospitals pay on an average per diem basis; and

Whereas, In the majority of the instances the area hospitals are not being reimbursed on basis of cost; and

Whereas, On Standard Benefits Contract the hospital is not permitted to bill the patient for over service; and

Whereas, The patient is led to believe in their contract that Blue Cross covers any and all cost; and

Whereas, The local community hospital is annually losing money on Blue Cross Contract which must be recovered from the local community; and

Whereas, The "Medicare" per diem basis is higher than the Blue Cross per diem basis,

Therefore, Be It Resolved, That this House of Delegates be informed of this continuing policy and take all necessary and pertinent action to force Blue Cross Hospital Service, Inc. to so adjust their contracts and payment procedures to correct this serious inequality.

(Referred to the Reference Committee on Resolutions.)

A resolution was submitted concerning the Reaffirmation of participation in Title 19 by the State of Missouri:

Whereas, The House of Delegates of the Missouri State Medical Association assembled in Annual Session in 1966, did, by

Resolution, endorse and affirm the principle of the enactment of enabling legislation in support of Title 19 of the Social Security Act, and

Whereas, Events during the ensuing year have tended to support the validity of that action, now therefore be it

Resolved, That the Missouri State Medical Association reiterates and reaffirms its endorsement of the principle that the State of Missouri should participate in the benefits provided by Title 19 of the Social Security Act.

(Referred to the Reference Committee on Miscellaneous Affairs.)

A resolution was introduced by the Ozarks Medical Society concerning Blue Cross Medical Insurance.

Whereas, Good medical insurance is now available from many sources.

Whereas, The medical societies need to sponsor Blue Cross and Blue Shield would seem no longer necessary, therefore be it

Resolved, That the Council be directed to investigate changes in future relationship of Blue Cross and Blue Shield and Missouri State Medical Society.

(Referred to the Reference Committee on Resolutions.)

A substitute resolution for Resolution No. 6 of Clay County concerning Legislative Implementation of Title 19, Public Law 89-97 was introduced by the St. Louis Medical Society:

Whereas, Implementation of Title 19, P.L. 89-97 by some states has led to such inequitable situations as:

(1) Limitation of those physicians eligible to practice under Title 19, P.L. 8997;

(2) Socialization of the medical care of large segments of the State's population through an unrealistic interpretation of need;

(3) Fee systems which may be dual or on a welfare scale;

(4) Compulsory acceptance of assignment through extension of the old vendor system rather than use of the alternatives offered under Title 18; therefore, be it

Resolved, By the Missouri State Medical Association that any acceptable legislative implementation of Title 19, P.L. 89-97 should:

(1) Grant the patient choice of physician limited only by licensure by the Missouri State Board of Registration for the Healing Arts.

(2) Set a realistic interpretation of medical need;

(3) Recognize no fee system other than the usual, customary and reasonable for the locale involved;

(4) Permit direct billing of patient without assignment;

(5) Stipulate that the amount and duration of care and services be governed solely by the professional judgment of those providers of services who are responsible for the patients' care; and be it further

Resolved, That Governor Hearnes and all members of the Missouri Legislature be furnished copies of this resolution; and be it further

Resolved, That all members of the Ways and Means Committee of the United States House of Representatives and all Missourians in the Congress be requested to work for amendment of Title 19, P.L. 89-97 to accomplish these ends.

(Referred to the Reference Committee on Miscellaneous Affairs.)

The second resolution introduced by the St. Louis Medical Society reads as follows:

Whereas, The various component societies are urged to elect their officers in October and

Whereas, It is impossible to know at that time how many fully paid members there will be as of December 31, therefore be it

Resolved, That Section 2, Chapter 3 of the Missouri State Medical Constitution and By-Laws be amended by striking out the words December 31st and inserting in lieu thereof the words September 30th.

(Referred to the Reference Committee on Constitution and By-Laws.)

A resolution introduced by the St. Louis Medical Society concerned the Collection of Medicare Fees by Corporations:

Whereas, Members of this Society have been informed that the fees to which they may be entitled under Part B, Title 18, and Title 19 of the Public Law 89-97 must be assigned to various corporations involved in the care of medically indigent patients and

Whereas, The physicians are assigned to the care of the patients in the discharge of their obligation in the training of resident physicians and

Whereas, The practicing physicians have been threatened with dismissal from training programs if they fail to comply with the assignment of medicare fees to the corporations, now therefore be it

Resolved, That a physician is the sole arbitor as to the disposal of fees to which he may be entitled and further be it

Resolved, That corporations which expel a physician for failure to assign fee be removed from the list of accredited training programs

And Be It Further Resolved, That delegates to the AMA be instructed to implement this resolution.

(Referred to the Reference Committee on Miscellaneous Affairs.)

A resolution concerning Compulsory Generic Prescribing was introduced by the St. Louis County Medical Society:

Whereas, Senator Long of Louisiana seeks to compel physicians to prescribe by generic term for any patient whose care is subsidized by the Federal Government and to require pharmacists to substitute any supposedly equivalent product which may be cheaper, and

Whereas, Senator Montoya (S 17) seeks the same end (without compulsion) by reimbursing only the cost of a cheaper generic "equivalent"; and

Whereas, Senator Aiken (S 110) does likewise, and

Whereas, Such compulsory prescription by generic term and such substitution by pharmacists have been previously limited to physicians and pharmacists who were full time salaried employees of the Federal Government as in certain divisions of the Department of Health, Education and Welfare, and

Whereas, It has been the policy of the Missouri State Medical Association and the American Medical Association to oppose compulsory generic prescribing as an interference with the prerogative of the physician who must bear the responsibility for the treatment of the patient, now therefore be it

Resolved, That the Missouri State Medical Association make known its continued opposition to compulsory generic prescribing regardless of the status of the patient and its proposed extension to non-salaried practitioners of the healing art, and be it further

Resolved, That the Missouri State Medical Association deplores this open attempt to reduce the quality of medical care of Social Security beneficiaries, and to restrict the freedom of private physicians and patients under the pretext of economy and efficiency.

(Referred to the Reference Committee on Miscellaneous Affairs.)

A resolution was introduced by the St. Louis Medical Society concerning the request for a national "in depth" study:

Whereas, Many medical care programs have been recommended and implemented, most of which have been based on other than Doctor-oriented studies; that is political, social or economic disciplines,

Therefore, Be It Resolved, That the Missouri State Medical Association instruct its delegates to the American Medical Association to urge that the AMA establish, direct and adequately fund a major "in depth" study of the multiple and changing social, political and economic factors which will effect the distribution of medical care in the ensuing years

Be It Further Resolved, That such "in depth" study encompass study groups which will include those concerned with medical education and vending of medical care, auxiliary medical services, political sociologists, economists oriented to the private sector of the economy and such other disciplines which contribute to such a study

And Further Be It Resolved, That the concept of systems analysis including computerization of the information and knowledge that has bearing on these areas be utilized in such a study

And Finally Be It Resolved, That the date be distributed and that such study be analyzed and publicized immediately and preserved for future analysis, and further that the membership be made aware of these findings in order that definitive plans of action can be initiated by the Medical Community and all those interested in the continuation of quality medical care for the American people.

(Referred to the Reference Committee on Resolutions.)

The Buchanan County Medical Society presented the following resolution:

Whereas, Persons with various types of insurance go to hospitals for diagnostic procedures and minor surgery that could better be done in doctors' offices and this is done for financial and other reasons including that of making the insurance company pay the expense of the hospitalization, and

Whereas, This puts an extra "lug" on the insurance companies for the hospitalization as well as for laboratory and other procedures routinely performed on all admissions and these procedures arc not indicated in all cases, and

Whereas, These diagnostic and minor surgical procedures can be done in doctors' offices without the expense of hospitalization,

Therefore, Be It Resolved, That the House of Delegates of the Missouri State Medical Association, through its Council and through the delegates to the AMA request all insurance companies to change their policies so as to pay for diagnostic procedures and minor surgery when performed in doctors' offices.

(Referred to the Reference Committee on Resolutions.)

The Speaker noted the reference committee assignments for additional matters in the Missouri State Medical Association Official Reports to the House of Delegates booklet.

Dr. Stuart appointed the following members to serve on the Committee on nominations: Drs. Donald Dowell, Thomas J. Fisher, Max Franklin, C. Read Boles, G. Donald Shull (Chairman), Gordon Stauffacher, Fred McCoy, Kenneth Glover, B. J. Bass and Ben Bull.

The Speaker invited introduction of new business.

There was no additional new business. The Speaker announced that Dr. Herbert C. Wiegand would replace Dr. James L. Mayfield as Chairman of the Reports of Officers Committee and Dr. Paul H. Rother would replace Dr. Mayfield as a member of that committee.

There being no additional business, the Speaker declared the first session of the House of Delegates adjourned.

SECOND SESSION

Friday, April 7, 1967

The Second Session of the House was called to order at 4:30 PM in the Chase Club with Doctor Peterson, Speaker, presiding. Dr. Arthur Neilson, Chairman of the Credentials Committee, reported that a quorum was present.

Dr. James N. Haddock, Chairman of the Reference Committee on Constitution and By-Laws, was invited to make his report.

CONSTITUTION AND BY-LAWS

The Reference Committee on Constitution and By-Laws met in the Park Room of the Hotel Chase on Thursday, April 6, 1967, at 5:30 PM.

The Committee discussed the report of the Publication Committee which recommended that there be two amendments to the Association's by-laws regarding matters pertaining to publication.

One: Chapter VII, Section 2, now would be changed to read:

"The Committee on Publication shall be appointed annually by the Council and shall be responsible for general publication and distribution policies of the Journal. The Editor of the Journal shall be designated by the Council and shall also serve as chairman of the Committee on Publication. The Editor shall be empowered to nominate an Editorial Board, consisting of members of the Association and subject to approval by the Council. The members of the Editorial Board will assist the Editor in soliciting, preparing and reviewing material for publication in the Journal."

Chapter II, Section 2, would be changed to read:

"Any paper read before this Association shall be considered for publication in the Journal if the author so desires. Such papers may be given publication priority over regularly submitted papers but shall be subject to the same editorial review and selection policies."

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Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

The report of the Committee on Constitution and By-Laws recommending that a Committee on Interspecialty Medicine be formed was considered. This would require that a standing committee be formed and that there be added to Chapter VII, Section 2, Page 10, immediately before Section 3, the following: "The Committee on Interspecialty Medicine shall be composed of one representative from the presently formed state-wide specialty groups listed herein, and others which may be formed in the future:

Missouri Ophthalmological Society
Missouri Pathological Society
Missouri Academy of General Practice
Missouri Radiological Society
Missouri Society of Internal Medicine
Missouri Surgical Society
Missouri Society of Anesthesiologists, Inc.
Missouri Academy of Psychiatry
Missouri Chapter, American College of Chest Physicians

"The President of Missouri State Medical Association shall appoint annually to this committee a representative from each group after consultation and recommendation by each group. This committee shall be charged with the responsibility of reviewing organizational problems with respect to scientific programs, socio-economic and legislative matters that affect their particular specialties and other subjects of interest. Reports from this committee shall be made periodically to the Council as well as to the House of Delegates."

The Committee recommends that this By-Law be approved, with the addition of the Missouri Chapter, American Academy of Pediatrics as another organization which will be represented on this committee.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The proposal by the Advisory Committee to the Woman's Auxiliary that unified billing for the Woman's Auxiliary and the Medical Society dues be considered was discussed. It is recommended that until the Woman's Auxiliary has clarified the matter of tax-exemption that this proposal be tabled.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

The resolution submitted by the St. Louis County Medical Society which recommended that Section II, Chapter 3 of the By-Laws be amended by striking out the words "December 31st" and inserting in lieu thereof, the words "September 30th" was approved.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded. During the discussion, another motion was made that this resolution be referred to the Council for further study and a decision. It was seconded and passed.)

Mr. Speaker, I move that the report of the Reference Committee on Constitution and By-Laws be adopted.

(The motion was seconded and passed.)

Dr. Herbert C. Wiegand, Chairman of the Reference Committee on Reports of Officers, was invited to give his report.

REPORTS OF OFFICERS

The Reference Committee on Reports of Officers met in the Coach Room of the Chase Hotel on Thursday,

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April 6, at 6:00 PM. In lieu of the absence of Dr. J. L. Mayfield, previously appointed chairman, the Speaker of the House, Dr. Peterson, reappointed Dr. Herbert C. Wiegand as Chairman and Dr. Paul Rother as the added Committee member. Also present were Drs. Kirby L. Turner, John L. Barnard, Jr. and Edward Jones. The addresses of the retiring President, President-Elect, the President of the Woman's Auxiliary, the report of the Secretary, the report of the Treasurer, the referred portions of the report of the Council and the report of the Executive Secretary were all approved as published.

The financial report of the year 1966 and the 1967 budget were reviewed in detail and approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and approved without discussion.)

Testimony was taken from various members who wished to state their opinions concerning the Resolution about joint MSMA—MMPAC billing. The consensus of opinion of these gentlemen was that the Resolution as offered to the House of Delegates should be modified to provide for joint billing of AMA, MSMA, local medical society dues and a volunteer contribution to MMPAC unless the local medical society objected to this procedure.

The Resolution is, therefore, reworded to read:

Whereas, The Missouri Medical Political Action Committee has requested a joint billing with Medical Association dues for the convenience of members of MSMA and has agreed to pay any additional cost thereof, and

Whereas, MMPAC provides educational programs worthy of support by the members of the Association, and

Whereas, Many members desire the convenience of a single billing combining the dues for their local, state and national medical organizations with a bill from MMPAC, now therefore, be it

Resolved, That local component medical societies may request the MSMA headquarters office, in furnishing the annual billing notices for members, to itemize the statements for the American Medical Association, Missouri State Medical Association and local medical society dues, and combine these with a statement of MMPAC dues to be purely voluntary, so long as the local society agrees to handle MMPAC funds collected at the local level separately from all medical organization funds, and also agrees to forward such MMPAC funds directly to MMPAC. Presumption of such request and agreements shall exist unless MSMA headquarters office is notified not to include such joint billing no later than September 1, of the preceding year.

Mr. Chairman, I urge the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

Mr. Speaker, I move the adoption of the report as a whole.

(The motion was seconded and passed.)

Dr. Avery P. Rowlette, Chairman of the Reference Committee on Miscellaneous Affairs, was invited to give his report.

MISCELLANEOUS AFFAIRS

The Reference Committee on Miscellaneous Affairs met in the Palladian Room at 6 PM, April 6, 1967, with the Chairman and all members present and adjourned at 10:30 PM. The reports of the Committees on Mental Health, on Legislative Matters, on Laboratory Medicine, on Eye Health and the reports of the Council referred to Committee were unanimously approved as published.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The intent of Resolution No. 1, introduced by the St. Louis Medical Society on Utilization Review Committees was approved, but the Resolution was changed to read as follows:

Whereas, To be effective, Utilization Review Committees are to be composed only of physicians and to serve only an integral function for the benefit of the patient and information of the hospital staff, therefore be it

Resolved, That Utilization Review Committees should not serve as investigative bodies for any non-physician agent other than as required by law.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded. During the discussion, another motion was made to refer this resolution to the Council for further study. It was seconded, but defeated on the vote. The original motion was passed.)

The resolution presented by the Jackson County Medical Society reaffirming action of the House of Delegates' approval of implementation of Title 19 by MSMA was approved by a 4 to 1 vote.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded. During the discussion which followed, Dr. John I. Matthews, Chairman of the Legislative Committee, was invited to explain the Council's and Missouri State Medical Association's official policy on this matter. It was moved that this resolution be amended by addition of the following words: "But that this be referred to the Council and to the Legislative Committee for further clarification." The motion was seconded and passed by a vote of 47 to 44.)

The resolution of the St. Louis County Medical Society disapproving compulsory generic prescribing was unanimously approved. Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The resolution of the St. Louis Medical Society on water pollution was approved, omitting the actual resolution passed by the St. Louis Medical Society and any statement thereto and was unanimously approved and will read as follows:

Whereas, Missouri State House Bill No. 319 relating to Water Pollution and strengthening our present State Water Pollution Laws has passed the House and has been referred to the Senate, and

Whereas, The Missouri State Medical Association has not as yet taken a position with regards to this important health problem which should be of concern to all physicians, therefore be it

Resolved, That the Legislative Committee of the Missouri State Medical Association be instructed to prepare a resolution strongly supporting all efforts made by the Missouri Department of Conservation, the Conservation Federation of Missouri and many other organizations who are concerned with the over-all effect of Water Pollution and its effect not only on wildlife and the resources of the earth, but also its productive soil, its forests and plant life and this inter-relationship with the health of human beings and animals useful in various ways to mankind, and be it further

Resolved, That the Missouri State Medical Association Council take immediate action in this direction and that copies of this resolution be forwarded to the Conservation Federation of Missouri, the Missouri Department of Conservation, the Missouri State Health Department and the Mayors of the large urban areas and the Governor of the State of Missouri.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The resolution introduced by the St. Louis Medical Society urging that licensure fees of physicians be devoted entirely to work of the Board of Healing Arts was unanimously approved. Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

Resolution No. 6 of the Clay County Medical Society Covering Title 19 was substituted by a resolution introduced by the St. Louis County Medical Society on legislative implementation of Title 19, Public Law 89-97 and which was unanimously approved. It reads as follows:

Whereas, Implementation of Title 19, Public Law 89-97, by some states has led to such inequitable situations as:

(1) Limitation of those physicians eligible to practice under Title 19, Public Law 89-97;

(2) Socialization of the medical care of large segments of the state's population through an unrealistic interpretation of need;

(3) Fee systems which may be dual or on a welfare scale;

(4) Compulsory acceptance of assignment through extension of the old vendor system rather than use of the alternatives offered under Title 18; therefore be it

Resolved, By the Missouri State Medical Association that any acceptable legislative implementation of Title 19, Public Law 89-97, should:

(1) Grant the patient choice of physician limited only by licensure by the Missouri State Board of Registration for the Healing Arts;

(2) Set a realistic interpretation of medical need;

(3) Recognize no fee system other than the usual, customary and reasonable for the locale involved;

(4) Permit direct billing of patient without assignment;

(5) Stipulate that the amount and duration of care and services be governed solely by the professional judgment of those providers of services who are responsible for the patient's care; and be it further

Resolved, That Governor Hearnes and all members of the Missouri Legislature be furnished copies of this resolution; and be it further

Resolved, That all members of the Ways & Means Committee of the United States House of Representatives and all Missourians in Congress be requested to work for amendment of Title 19, Public Law 89-97, to accomplish these ends.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

Resolution No. 2, as published, introduced by the St. Louis Medical Society was disapproved. While the idea of certification and recertification was repugnant to the Committee, since the Resolution was directed against a form and not the basic concept of certification, the majority of the Committee felt the form in question, was the simplest way to comply with the law and that it would be impractical to use the patient's record for certification and recertification as this would place a heavy burden on the Record Review Committee and the Utilization Review Committees.

Mr. Chairman, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

Mr. Chairman, I move the adoption of the report as a whole as amended.

(The motion was seconded and passed without discussion.)

Dr. Frederick J. McCoy, Chairman of the Reference Committee on Resolutions, was invited to give his report.

RESOLUTIONS

The meeting of the Reference Committee on Resolutions was called at 6:30 PM on April 6 in the Colonial Room of the Chase-Park Plaza Hotel with all members present.

The substitution resolution introduced by Dr. Kerr to the Council Meeting of May 7, 1966, regarding the prevailing fee concept was approved. The recommendation approved and agreed that the MSMA authorize the Missouri Medical Service proposal that a study including the survey of physicians be made to obtain information pertinent to the prevailing fee concept and that the Association cooperate in this proposal.

Mr. Speaker, I moved the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

Newly installed MSMA President Hector W. Benoit, Jr. (right) presents to his predecessor, Dr. Byron M. Stuart (left) a plaque expressing the Association's appreciation for his year of service as President. Doctor Stuart will continue as a member of the Council for another year.

Mr. O'Brien's report to the Council September 24, 1966, regarded the existing Military Dependents' Medical Care program indicating that the scheduled benefits need revising. He also discussed the problem involving renewal of the contract expiring December 31, 1966 and it was agreed by the Council that Mr. O'Brien proceed with the plan to meet with Colonel Hayes to discuss the terms of the contract. This action was approved.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and, after a brief discussion, was passed.)

Mr. O'Brien reported to the Council at its meeting on December 10, 1966 providing an explanation regarding the ODMC newly expanded by the action of the 1966 Congress and stated a meeting had been held with General Peatfield and his assistant together with Mr. McIntyre. They discussed the contract scheduled to expire in December, 1966. The necessity for working out a new benefit schedule was recognized, but sufficient information from physicians was not available and the action was tabled until later in the day. At the completion of discussion on this matter, the Council moved that Mr. O'Brien be empowered to negotiate the best contract he could for the year 1967 and also that usual, customary and reasonable fees be used as a basis for negotiation to be started as soon as possible for 1968 and, further, that the MSMA Review Committee guarantee to review any charges considered unreasonable. Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The Committee then considered Dr. Neilson's report of the meeting of the AMA delegates in Las Vegas, Nevada, on December 10, 1966. Items 7, 9, 16, 17 and 18, as published in the Official Reports of Officers, were approved. Item 15 was felt to need revision with the assistance of legal council and is referred back to MSMA Council for further study.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The resolution presented by the Ozark Medical Society regarding the relationship between Blue Cross and Blue Shield and Missouri State Medical Society was tabled in favor of the resolution on the same subject submitted by the Franklin-Gasconade-Warren County Medical Society, this resolution is as follows:

Whereas, Blue Cross in their contract with hospitals pay on an average per diem basis; and

Whereas, In the majority of the instances the area hospitals are not being reimbursed on basis of cost; and

Whereas, On Standard Benefits Contract the hospital is not permitted to bill the patient for over service; and

Whereas, The patient is led to believe in his contract that Blue Cross covers any and all cost; and

Whereas, The local community hospital is annually losing money on Blue Cross Contract which must be recovered from the local community; and

Whereas, The "Medicare" per diem basis is higher than the Blue Cross per diem basis,

Therefore, Be It Resolved, That this House of Delegates be informed of this continuing policy and take all necessary and pertinent action to influence Blue Cross Hospital Service, Inc. to so adjust their contracts and payment procedures to correct this serious inequality.

The Committee originally passed on this resolution deleting the word "force" and substituting the word "influence"—"Action to influence Blue Cross Hospital Services." However, Mr. Speaker, I would like to digress, at this moment, from the printed report to state the Chairman of this Committee has within the past hour or so received information of a factual nature concerning some of the stipulations set out in this resolution and I would, therefore, respectfully request that this action not be approved at this time, but that it be referred back to our Committee for further study.

(The Speaker so ruled.)

The following resolution was submitted by the Buchanan County delegates:

Whereas, Our hospitals at the present time are crowded and the admission of patients is becoming increasingly difficult due to Medicare and other Government medical programs in addition to the usual private patient load, and

Whereas, Many types of prepaid medical insurance require patients to be hospitalized before benefits can be received, and

Whereas, Many diagnostic and minor surgical procedures could just as well be performed in physicians' offices rather than in the hospital, and

Whereas, The additional hospital expenses for certain routine admission procedure over and above the desired diagnostic or surgical procedure raises the total cost to the insurance company and therefore increases the premium patients must pay, and

Whereas, The increasing cost of total medical care is considered by the public to be a direct responsibility of the medical profession and

Whereas, These unnecessary hospitalizations are making it increasingly difficult to obtain admission for really sick or emergency patients.

Therefore, Be It Resolved, That the House of Delegates of the Missouri State Medical Association through its Council, appropriate committees and also through the Delegates to the AMA urgently request all insurance companies on state and national levels to change their policies so as to pay for certain diagnostic procedures and minor surgery when performed in a physician's office or in hospitals on out-patient status rather than requiring hospitalization for such procedures, and

Further Be It Resolved, That the Missouri State Medical Association and the AMA request the support of the Missouri Hospital Association and the American Hospital Association in this cost reduction effort, and that the Missouri State Medical Association offers its cooperative effort in advising insurance companies as to the ways and means by which this action can be carried out.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The following resolution was authored by Dr. Boles of the St. Louis County Medical Society:

Whereas, Many medical care programs have been recommended and implemented, most of which have been based on other than Doctor-oriented studies; that is political, social or economic disciplines

Therefore, Be It Resolved, That the Missouri State Medical Association instruct its delegates to the American Medical Association to urge that the AMA continue to direct, expand and adequately fund major "in depth" studies of the multiple and changing social, political, and economic factors which will effect the distribution of medical care in the ensuing years

Be It Further Resolved, That such "in depth" study encompass study groups which will include those concerned with medical education and vending of medical care, auxiliary medical services, political sociologists, economists oriented to the private sector of the economy and such other disciplines which contribute to such a study

And Further Be It Resolved, That the concept of systems analysis including computerization of the information and knowledge that has bearing on these areas be utilized in such a study

And Be It Finally Resolved, That the data be distributed and that such study be analyzed and publicized immediately and preserved for future analysis, and further that the membership be made aware of these findings in order that definitive plans of action can be initiated by the Medical Community and all those interested in the continuation of quality medical care of the American people.

I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

This resolution, introduced by the St. Louis County Medical Society, deals with collection of medicare fees by institutions:

Whereas, Members of this Society have been informed that the fees to which they may be entitled under Part B, Title 18, and Title 19 of the Public Law 89-97 must be assigned to various institutions involved in the care of medically indigent patients and

Whereas, The Physicians are assigned to the care of the patients in the discharge of their obligations in the training of resident physicians and

Whereas, The practicing physicians have been threatened with dismissal from training programs if they fail to comply with the assignment of medicare fees to the institutions.

Now Therefore Be It Resolved, That a physician is the sole arbitor as to the disposition of fees to which he may be entitled and

Further Be It Resolved, That institutions which expel a physician for failure to assign fee be removed from the list of accredited training programs, and

Be It Further Resolved, That the delegates to the AMA be instructed to implement their resolution.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The Reference Committee on Resolutions then considered the recommendations of the MSMA Economic Committee submitted to Council on April 12, 1967. This report recommends formation of a Medical Economic Contract Committee. The composition of this committee is to be:

a. MSMA Economics Committee and chaired by its chairman.

b. The committee on Interspecialty Medicine of MSMA and a designated representative of any other specialty group desiring a representative and appointed by the President of MSMA upon instruction by specialty groups.

c. An ex-officio legal advisor provided by MSMA.

d. Ex-officio: or President of MSMA and Chairman of Council of MSMA.

For the purpose of recommending to the Council of MSMA a means or basis of fee determination with which the Council may empower this Committee to negotiate any future MSMA Third party fee contract agreements.

Members of the Committee will discuss with their parent groups fee schedule methods, using as points of departure:

a. present prevailing fees as currently charged by their parent group colleagues.

b. The California relative value schedule.

The Council approved the recommendations of the Committee on Medical Economics, and proceeded to adopt a motion, proposed by Dr. Gerald Miller. It was agreed that the Council recommend that all divisions of medicine be organized in statewide groups by type of practice so that such groups may all have representation on the Committee on Interspecialty Medicine and that such organization be done as soon as possible.

The Reference Committee approves in principle the formation of a Medical Economics Contract Committee but suggests that consideration be given to limiting the participation of the Economics Committee itself on the contract committee to its chairman who is also being designated as chairman of the Economics Contract Committee. The Committee on resolutions further recommends that the Committee on Constitution and By-Laws be charged with the responsibility of specifically setting out the nature and manner by which specialty groups are to be represented; and that its representatives, having been duly chosen, then are to be appointed by the President of the MSMA to serve.

Mr. Speaker, I move the adoption of this portion of the report.

(It was moved, seconded and passed that the recommendation on formation of a Medical Economics Contract Committee be referred back to the Council for clarification.)

Mr. Speaker, I move the adoption of the report as a whole, as amended.

(The motion was seconded and passed.)

Dr. C. Thorpe Ray, Chairman of the Reference Committee on Medical Education and Public Welfare, was invited to make his report.

MEDICAL EDUCATION AND PUBLIC WELFARE

The Reference Committee on Medical Education and Public Welfare met at 6:30 PM, April 6, 1967, in the Embassy Room of the Chase Hotel. All members were present. It was recommended that the published reports of the following committees be adopted:

1. Scientific and Postgraduate Work
2. Medical Education and Hospitals
3. Cancer
4. Maternal
5. Infant and Child Care
6. Control of Venereal Disease
7. Diabetes Mellitus
8. Anesthesiology
9. Disaster Medical Care and National Defense
10. Physical Medicine and Rehabilitation
11. Special Service
12. Tuberculosis (Special)
13. Nursing and Paramedical Personnel (Special)
14. Study of Cardiac Disease (Special)
15. Report of the Committee on Alcoholism (Special)

and the sections of the printed "Reports of Council Meetings" assigned to this Reference Committee.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The Committee recommends that Resolution No. 3, introduced by the St. Louis Medical Society regarding AMA Institute of Biomedical Research, not be adopted.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The resolution on Alcoholism, presented by Dr. Joseph Kendis in the supplemental report of the Council, is recommended for adoption by the Committee.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

The Council action to support Senate Bill 2302, which would require an internship or residency as a condition for licensure to practice in the State of Missouri, was considered by this Reference Committee which recommends that this action be approved with the supple-

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IN BRIEF.

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Not indicated in children under 6 years; absolute dosage for 6- to 12-year-olds not established.

Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leucopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age.

These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever and euphoria.

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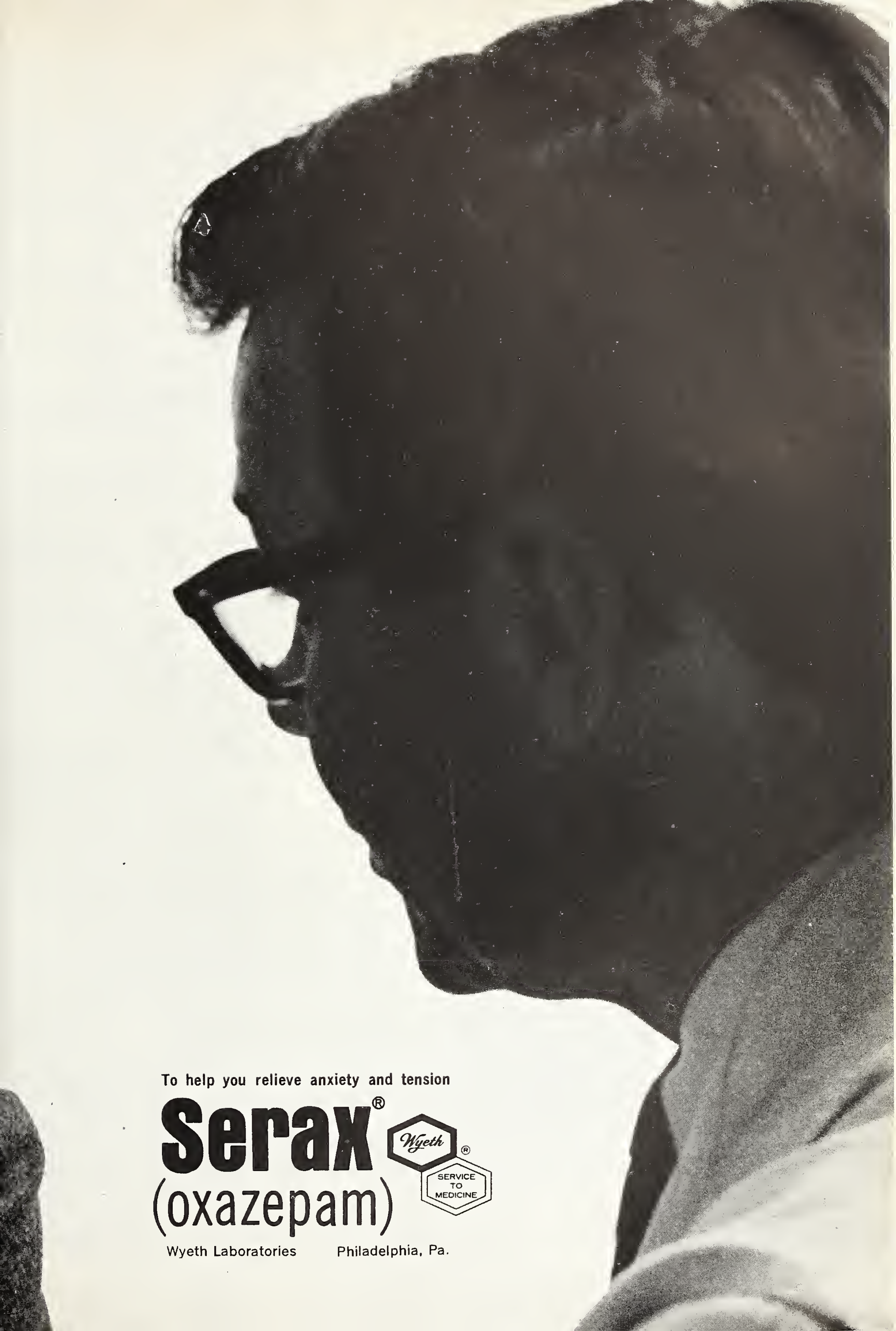

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mental recommendation that the Legislative Committee be instructed to attempt to modify the bill to allow specific exceptions to be determined by the Missouri State Board of Registration for the Healing Arts.

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

A memorable moment for each new MSMA President occurs when he accepts the traditional President's gavel. Retiring President Byron M. Stuart presents this badge of office to President Hector W. Benoit, Jr.

The Committee considered Resolution No. 5 introduced by the Greene County Medical Society concerning Cardiac Resuscitation and recommends approval of this resolution as amended by the Committee:

On the first page, the fifth paragraph as amended, is as follows:

"Whereas, The obvious solution is the utilization of the specially trained registered nurse or other specially qualified, trained personnel—the only persons instantly available at the time an arrest occurs who is capable of carrying out complete cardiac resuscitation, including the use of the defibrillator prior to the arrival of the physician."

The other amendment is on the last page in the statement of defibrillation, Item No. 3, in the middle of the page which previously said,

"Each registered professional nurse must exercise professional judgment in determining her qualifications and competency to perform this treatment."

At the request of the proposers, this section was considered to be redundant and was deleted.

Item No. 2, as submitted reads as follows:

"This applies only to specially selected registered professional nurses who have had specific instructions, including theory and demonstration in the use of the monitoring system, interpretation of this system and subsequent necessary defibrillation, and practice in the use of these techniques under direct medical supervision."

The Committee's suggested modification would be as follows:

"This applies only to specially selected registered professional nurses and other specially qualified and trained personnel who have had specific instructions including theory and demonstration in the use of the monitoring system, interpretation of this system, and subsequent necessary defibrillation and practice in the use of these techniques under direct medical supervision."

In Item C, at the bottom of the page, as submitted reads "to decide on the competency of the registered professional nurse to perform the treatment." Add the following words to read, "to decide on the competency of the registered professional nurses or other personnel to perform the treatment."

Mr. Speaker, I move the adoption of this portion of the report.

(The motion was seconded and passed without discussion.)

Mr. Speaker, I move the adoption of the report as a whole.

(The motion was seconded and passed without discussion.)

Dr. Kenneth Glover, Chairman of the Reference Committee on Necrology, was invited to make his report.

NECROLOGY

The Reference Committee on Necrology met in the reference room yesterday afternoon at 5:45 PM with all members present. The following resolution was approved by the Committee:

Whereas, There have been 72 deaths among members of the Missouri State Medical Association since the last annual session, and

Whereas, The loss of these colleagues has been deeply felt, not only by those who knew them personally, but also by the profession in which they serve,

Whereas, Condolences have already been extended to the family of those who have been departed,

Therefore Be It Now Resolved, That the names of those members who have died during the past year be entered in the official Minutes of this meeting,

Be It Further Resolved, That this House of Delegates stand for a moment of silence in memory of those physicians who have died and in recognition of their contribution to the practice of medicine.

It is also recommended that the memoriam perpetuam be continued to be sent to each family.

Mr. Speaker, I move the adoption of this report.

(The motion to adopt the resolution was seconded, and the Speaker asked the House of Delegates to stand for a moment of silence in indication of approval of the motion.)

Members Deceased Since the 1966 Session

Knox, Earl R., M.D., Kansas City
Curran, Herbert A., M.D., St. Joseph
McDonald, Bruce P., M.D., Kansas City
Birney, William P., M.D., Hannibal
Long, Forrest C., M.D., Savannah
Canepa, John B., M.D., St. Louis
Henrickson, Hardin O., M.D., Poplar Bluff
Hobart, Carl A., M.D., St. Louis
Carbaugh, Glenn C., M.D., Kansas City
Lawton, Thomas P., M.D., St. Louis
Wilson, Virgil R., M.D., Rosendale
Hunt, Lloyd H., M.D., Salem
Warner, Robert G., M.D., St. Louis
Ramos, Raoul L., M.D., St. Louis
Heller, B. Marcus, M.D., Kansas City
Summers, Jacob H., M.D., Lebanon
Underwood, Millard K., M.D., Rolla
Rosen, Charles S., M.D., St. Louis
Brownfield, Samuel T., M.D., Brookfield
Rusk, Earl M., M.D., Camdenton

Sewell, Walter S., M.D., Springfield
Sutphin, John B., M.D., Ferguson
Levin, Sidney S., M.D., St. Louis
Roberts, Sam E., M.D., Shawnee Mission, Kansas
Kyger, Fred B., M.D., Kansas City
Ready, James H., M.D., St. Louis
Sheldon, John, M.D., Kansas City
Tate, Lloyd L., M.D., St. Louis
Kinsella, Ralph A., Sr., M.D., St. Louis
Guffey, Don Carlos, M.D., Kansas City
Douglass, Jesse E., M.D., Kansas City
Reich, Oliver F., M.D., Imperial
Marty, Loraine A., M.D., Leawood, Kansas
Bulger, Harold A., M.D., St. Louis
Israel, Milton R., M.D., St. Louis
McLelland, Richard I., M.D., Seattle, Wash.
Scherman, Victor E., M.D., St. Louis
Macdonnell, Carey R., M.D., Marshfield
Silsby, Don H., M.D., Springfield
Harris, Hinman A., M.D., University City
O'Dell, Timothy T., M.D., Oran
Threadgill, Jesse M., M.D., Forsyth
Brandon, Walter Lee, M.D., Poplar Bluff
McCallum, A. J. C., M.D., Aurora
Laurenzana, Frank P., M.D., Kansas City
Lilly, Terry E., M.D., Kansas City
Ahlefeld, Charles B., M.D., Shawnee Mission, Kansas
Beal, Homer, M.D., Malden
Juden, Alexander G., M.D., Cape Girardeau
Crites, Edward, M.D., Sedgewickville
Myers, Wilson A., M.D., Kansas City
Cossins, Carlos E., M.D., St. Joseph
Javaux, Everett J., M.D., St. Louis
Kubitschek, Paul F., M.D., St. Louis
Costrino, John J., M.D., University City
Laffoon, France L., M.D., Vista, Calif.
Woltzen, Simon W., M.D., Clinton
Carpenter, George W., M.D., Utica
Snider, Samuel H., M.D., Kansas City
Vogel, Eugene A., M.D., St. Louis
McMahon, Alphonse, M.D., St. Louis
Dorsett, E. Lee, M.D., Indianola, Mississippi
Kehoe, John J., M.D., St. Louis
Welch, Hooper W., M.D., St. Louis
Knabb, Harris, M.D., Springfield
Weintraub, Solomon A., M.D., St. Louis
Brooks, Arthur C., M.D., St. Louis
Burney, Wallace S., M.D., Miller
Mairs, Edgar J., M.D., Trenton
Berman, Joseph P., M.D., St. Louis
Counsell, Chester M., M.D., Kansas City
Wimp, J. J., M.D., Kirksville

The Speaker invited introduction of new business. Dr. John P. Eberle introduced a resolution sponsored by the MSMA Section on Anesthesiology:

Whereas, Certain Health insurance carriers set aside a fee for the administration of anesthetics, which, it is assumed, is to be paid to the physician responsible for this professional service, and

Whereas, There has been a division of this medical professional fee in many instances between the physician responsible for the anesthetic and the hospital at which he works, and

Whereas, Many attempts to correct this most improper division of a medical fee between a physician and a hospital has been to no avail, be it therefore

Resolved, That this House of Delegates declare it to be improper and unethical for any health insurance carrier to divide any fee for the professional service of anesthesia between a hospital and the physician responsible for this professional service.

(Referred to the Reference Committee on Resolutions.)

A resolution was introduced by Dr. Charles Jost regarding Title 19.

Whereas, The implementation of Title 19 would put an excessive and unnecessary tax burden on the people of Missouri, and

Whereas, The Governor of the State of Missouri has declared that the implementation of Title 19 is economically not feasible, and

Whereas, This legislation paradoxically places more and more citizens of the State of Missouri in the category of indigent at a time of increasing affluence, and

Whereas, Tax money derived from the people of this state is being used to coerce the state to impose an increasing degree of Federal regulation of the medical care of our people, therefore be it

Resolved, That the Missouri State Medical Association House of Delegates goes on record as being opposed to the implementation of Title 19 in Missouri and be it further

Resolved, That the Missouri State Medical Association request the Missouri Senators and Representatives in Congress to bring about the repeal of this legislation.

(Referred to the Reference Committee on Miscellaneous Affairs.)

Dr. John Walters introduced a resolution from the Boone County Medical Society.

Whereas, Dr. Lillehei has allowed his photograph, his name and a listing of his medical achievements to be used as an advertisement for a commercial company in the February 2, 1967 U. S. News and World Report, and

Whereas, The Missouri State Medical Association feels that sponsorship of a commercial product by any physician detracts from the dignity of the profession. Be it therefore resolved that the following letter be sent to the president of the Minnesota State Medical Association:

"By action of the House of Delegates of the Missouri State Medical Association, I am directed to inform you that the physicians of Missouri were embarrassed by the action of Dr. Walton Lillehei when he allowed his name, photograph, position and list of medical accomplishments to be used as a commercial advertisement in the February 2, 1967 edition of U. S. News and World Report."

(Referred to the Reference Committee on Constitution and By-Laws.)

Dr. Robert Thomasson introduced a resolution directed against the basic concept and the redundancy of certification in order to enter a patient in the hospital.

Dr. and Mrs. George W. Winn of Boonville and Dr. Joseph V. Finnegan of St. Louis sample the special dessert cups as Mrs. Finnegan watches. Doctor Finnegan is Editor of Missouri Medicine.

Whereas, Certification as explained by Health, Education and Welfare is the "medical necessity" or "words to that equivalent" of the patient's reason for receiving in-patient hospital care or extended care facility and

Whereas, Special or additional forms are not required by Title 18, Public Law 89-97, therefore be it

Resolved, That physicians need not sign such special or additional forms where the usual admission note and progress notes contain the required information regarding the patient's care and extended car, and be it further

Resolved, That Missouri delegates to the American Medical Association be instructed to seek elimination of paragraph (2) Section 1814 of Title 18 Public Law 89-97 which pertains to and definies certification and recertification.

(Referred to the Reference Committee on Miscellaneous Affairs.)

There being no further business, the Speaker adjourned the Second Session of the House.

THIRD SESSION

April 9, 1967

The Third Assembly of the 109th Annual Session of the MSMA House of Delegates was called to order by the Speaker, Doctor Peterson, following a 7:30 AM breakfast at the Chase Hotel. Doctor Neilson reported the presence of a quorum. With unanimous consent, the Speaker dispensed with a roll call and reading of the minutes of the two previous sessions.

Doctor Matthews, Secretary, reported that the total attendance at the meeting was 1,100 and the change of meeting days to Thursday through Sunday was considered successful.

Congressman Durward G. Hall, M.D., member of the United States House of Representatives and an Honorary Member of MSMA, was invited to speak to the Assembly. Doctor Hall expressed appreciation for the honor bestowed upon him and challenged the members to be proud of their profession, to stand up for what they believe is right and to take an active part in government at all levels.

Dr. G. Donald Shull, Chairman of the Nominating Committee, was invited to present the report of his committee.

Special guests of honor at the Presidents' Banquet were President Hector W. Benoit, Jr., and Mrs. Benoit. Seated next to them are MSMA Secretary John L. Matthews and Mrs. Matthews of Jefferson City.

NOMINATING COMMITTEE

The Nominating Committee met on Friday and submitted the following slate of nominees for approval of this Society:

AMA Delegate—Dr. Hector W. Benoit, Jr., of Kansas City

Alternate AMA Delegate—Dr. Hugh Stephenson, Columbia

AMA Delegate—Dr. Arthur W. Neilson, St. Louis

Alternate AMA Delegate—Dr. Robert W. Kelley, St. Louis

Speaker of the House—Dr. Paul F. Max, St. Louis

Vice Speaker—Dr. Elvin D. Imes, Maryville

First Vice President—Dr. Cecil G. Leitch, Kansas City

Second Vice President—Dr. Kenneth Glover, Mount Vernon

Third Vice President—Dr. Martyn Schattyn, St. Louis

The Speaker invited additional nominations from the floor. Hearing none, he entertained a motion that nominations cease and that a unanimous ballot be cast for the slate as presented by the Nominating Committee. The motion was made, seconded and passed.

The Speaker invited nominations for the office of President-Elect. Dr. Max Franklin nominated Dr. David Kerr of St. Louis. The nomination was seconded by Doctor Herbert C. Wiegand. There were no additional nominations and the Speaker asked for a vote on Doctor Kerr. The vote was unanimous and Doctor Kerr was declared elected. He was escorted to the Speaker's stand and made a brief acceptance statement.

The Speaker asked Doctor Haddock to present the final report of the Reference Committee on Constitution and By-Laws.

CONSTITUTION AND BY-LAWS

The Reference Committee on Constitution and By-Laws met at 6:30 PM, April 7, 1967, in the Park Room of the Chase Hotel with all members present. The Committee discussed the resolution submitted by the Boone County Medical Society regarding Dr. C. Walton Lillehei and unanimously recommended that this matter be referred to the Council without discussion, as provided in Chapter VI, Section 4 of the By-Laws of the Missouri State Medical Association.

(The motion to adopt the report was seconded and passed.)

The Speaker invited Dr. Charles Sherwin to present the report of the Reference Committee on Resolutions.

RESOLUTIONS

The second meeting of the Reference Committee on Resolutions of the MSMA was held at 6:00 PM, April 7, 1967 in the Colonial Room of the Chase-Park Plaza Hotel.

The Reference Committee on Resolutions brought up for reconsideration the resolution previously referred to, submitted by the Ozark Medical Society and dealing with withdrawal of sponsorship of Blue Cross-Blue Shield and, also, the resolution submitted by the Franklin-Gasconade-Warren County Medical Society. Numerous proponents of these measures were heard.

It was abundantly clear that there are many points of conflict between the physicians and hospitals of Missouri and this particular Blue Cross plan which cannot be easily resolved. It is also clear to this committee that frequent and repeated efforts to resolve these differences directly with the plan have produced no acceptable results.

The Committee, therefore, feels that these two resolutions should be tabled with the provision that the matters to which they allude, along with many others of a similarly unsatisfactory nature, should be processed in a different manner than by simple approval of resolutions.

The Committee strongly recommends that the Council accept the responsibility, either acting as a body as a whole or through an appropriate committee to arrange for a confrontation of the parties to these disputes, namely the MSMA, the officers of Blue Cross Hospital Service, Incorporated of Missouri and physicians with specific grievances, and that all complaints may be heard and proper solutions be sought. The persistence of these problems would seem to make it imperative that these actions be carried out with all possible expediency.

(The motion was made to adopt and was seconded. A second motion to refer the resolution to the Medical Economics Committee was made, seconded and defeated on the vote. The original motion was voted on and passed.)

The Reference Committee on Resolutions further considered a resolution submitted by Dr. John P. Eberle of the St. Louis Medical Society.

Whereas, Certain health insurance carriers set aside a fee for the administration of anesthetics, which, it is assumed, is to be paid to the physician responsible for this professional service; and

Whereas, There has been a division of this medical professional fee in many instances between the physician responsible for the anesthetic and the hospital at which he works; and

WHEREAS, Many attempts to correct this most important division of a medical fee between a physician and a hospital has been to no avail, be it therefore

Resolved, That this House of Delegates declare it to be improper and unacceptable for any health insurance carrier to divide any fee for the professional service of anesthesia between a hospital and the physician responsible for this professional service.

And Be It Further Resolved, That notification of this action be sent to all major health insurance carriers doing business in the State of Missouri.

(The motion to adopt was seconded and passed; and the motion to adopt the Committee's report in full was seconded and passed.)

The Speaker invited Doctor Rowlette to make the final report of the Committee on Miscellaneous Affairs.

MISCELLANEOUS AFFAIRS

The Reference Committee on Miscellaneous Affairs met in the Palladian Room of the Chase Hotel at 6:15 PM, April 7, 1967, with all members present.

The Resolution introduced by Dr. Charles Jost of St. Louis opposing the implementation of Title 19 by Missouri State Medical Association was unanimously disapproved.

(A motion to adopt was seconded and defeated on the vote of 55 to 45. After discussion, it was voted to reconsider the motion; the motion was voted on and passed.)

A second resolution submitted by Dr. Robert Thomasson of St. Louis concerning certification and re-certification of Medicare patients was unanimously approved as revised:

Be It Resolved, That Missouri State Medical Association support the effort of the American Medical Association to amend Public Law 89-97 to remove the requirements for certification and re-certification of hospitalized patients under this law and request the delegates to the American Medical Association to work toward this goal.

(The motion to adopt was seconded and passed. The motion to adopt the report as a whole was seconded and passed.)

The Speaker invited unfinished business. There was no unfinished business. He invited new business. There was no new business.

The officers and councilors were invited to come to the front of the auditorium where the Association Secretary, Doctor Matthews, administered the oath of office.

The President, Doctor Benoit, was invited to announce his committee appointments for the 1967-68 year. Committee members whose terms had not expired were not mentioned and it is assumed that they will continue to serve.

Scientific and Postgraduate Work—Richard W. Yore, St. Louis, Chairman; Edward D. Kinsella, St. Louis; Associate Members: E. D. Imes, Maryville; Paul B. Anderson, Neosho; W. T. Morgan, Jr., West Plains; Paul H. Rother, St. Charles; Charles P. McGinty, Cape Girardeau; William D. Hoadley, Kansas City; A. J. Campbell, Sedalia; T. J. Fischer, Hannibal.

Medical Defense—W. W. Gist, Kansas City, Chairman; Gilbert B. Kelley, Savannah; Chester R. Peck, Jr., Kennett.

Medical Education and Hospitals—Ralph R. Hall, Kansas City, Chairman; William C. Allen, Columbia; Carl E. Lischer, St. Louis; Associate Members: William M. Allen, St. Louis; George X. Trimble, Kansas City; Thompson E. Potter, St. Joseph.

Medical Economics—Herbert C. Wiegand, St. Louis, Chairman; Chester L. Clark, Trenton; Rae W. Froelich, Lebanon; Associate Members: Russell D. Shelden, Kansas City; David G. Hall, Columbia; A. P. Rowlette, Moberly; C. O. Vermillion, St. Louis; Charles Miller, Jr., Kirkwood; W. J. Ferguson, Sikeston; Robert H. Lund, Clayton.

Cancer—E. J. Schewe, Columbia, Chairman; Charles R. Gulick, St. Louis; Associate Members: Ben H. Koon, Bolivar; Jose M. Sala, Springfield; G. Neil Berry, Kansas City; Frederick B. Coller, Springfield; E. J. Hansbrough, Poplar Bluff.

Maternal Welfare—William B. See, Columbia, Chairman; Eugene G. Hamilton, St. Louis; Leonard A. Wall, Kansas City; Associate Members: C. G. Stauffacher, Sedalia; Edward M. Grim, Kirksville; Raymond C. Conrad, Springfield; E. E. Wadlow, St. Joseph; Paul E. Kratz, Cape Girardeau; Carl J. Dreyer, Webster Groves; Lyman D. Brown, Springfield; Robert S. Brown, Kansas City; Seymour Monat, St. Louis; Samuel A. Montello, Kansas City.

Infant and Child Care—James A. Kinder, Cape Girardeau, Chairman; E. J. Schwartz, Springfield; James K. Mann, Hannibal; H. E. Petersen, St. Joseph; Francis X. Lieb, St. Louis; Guy N. Magness, University City; Robert J. Harris, Columbia; James J. Pascoe, Nevada; Barbara E. Russell, Rolla; Richard Blim, Kansas City; Associate Members: C. Read Boles, Clayton; Glennan A. Horner, Marceline; Bailey C. Andrus, Kansas City; Willard B. Avery, Boonville.

Mental Health—Robert S. Terrill, Kansas City, Chairman; Henry V. Guhleman, Jefferson City; Paul W. Hayes, St. Joseph; James Haddock, St. Louis; Robert D. Brookes, St. Louis; D. R. Edwards, Sedalia; James B. Allison, Springfield; Paul L. Barone, Nevada; Edward T. Auer, St. Louis; Leonard J. Wiedershine, St. Louis; Marie Mowrer, St. Louis; Charles B. Wilkinson, Kansas City.

Constitution and By-Laws: Kenneth C. Hollweg, Kansas City, Chairman; Byron M. Stuart, Boonville; J. William Thompson, St. Louis.

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman; James W. Bagby, Clayton; A. W. Neilson, St. Louis; Associate Member: Gilbert Ross, Jr., Columbia.

Trauma—Richard E. Lord, St. Louis, Chairman; E. M. Dillard, Springfield; Associate Members: Carl M. Peter-

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Eye Health—Flavius G. Pernoud, St. Louis, Chairman; John D. Maddox, Joplin; Truman B. Schertz, North Kansas City; Associate Members: John F. Bradford, Kansas City; Wilbur L. Lewin, St. Louis; D. E. Eggleston, Macon; Jack Hartstein, University City; George Mandler, Chillicothe; H. B. Stauffer, Jefferson City; Robert Stewart, Springfield; Earl G. Padfield, Jr., Kansas City.

Diabetes Mellitus—Harold K. Roberts, St. Louis, Chairman; Thomas W. Burns, Columbia; Donald A. Black, Kansas City; Associate Members: Wm. H. Olmstead, St. Louis; Loren Broaddus, Springfield; C. C. Cohrs, Moberly; Harold D. Ridings, Cape Girardeau.

Anesthesiology—Edward O. Kraft, Brentwood, Chairman; S. Ross Melgaard, Kansas City; Kenneth Keown, Columbia; Associate Members: Harold J. Freiheit, St. Louis; Robert S. Higgins, Kansas City; George R. Weeks, Cape Girardeau; Robert B. Dodd, St. Louis; James S. Gordon, Jefferson City; James A. Wells, Kansas City.

Disaster Medical Care and National Defense—John T. Crowe, Cape Girardeau, Chairman; George L. Watkins, Farmington; Carl D. Siegel, Kansas City; Carroll P. Hungate, Kansas City; Wm. F. Bell, Lee's Summit; B. L. Murphy, Hannibal; Durand Benjamin, St. Louis; Ned B. Chase, Jr., Joplin; Allen P. Klippel, Clayton; O. P. Hampton, St. Louis; Paul A. Lindquist, Liberty; Joseph P. Russell, Jefferson City; Robert B. Young, Rolla; Thomas B. Cook, Richmond; W. Alexander Hoja, Poplar Bluff.

Physical Medicine and Rehabilitation—Edward B. Shires, Kansas City, Chairman; Harry C. Morgan, St. Louis; Associate Members: Robert H. Fitzgerald, Independence; James T. Leslie, Jr., Jefferson City.

Aging—C. Thorpe Ray, Columbia, Chairman; Robert H. Tanner, Jefferson City; John W. Daake, St. Louis; Associate Members: Norman P. Knowlton, Jr., St. Louis; Warren F. Wilhelm, Kansas City; Robert E. Koch, Clayton; Logan Mayfield, Crystal City; C. A. Nester, St. Louis.

Radiology and Ionizing Radiation—Harold B. Rapp, Cape Girardeau, Chairman; Sam Merenda, St. Louis; Wayne K. Tice, Independence; Associate Members: Sidney Rubin, Kansas City; Joseph S. Summers, Jr., Jefferson City.

Alcoholism—Joseph Kendis, St. Louis, Chairman; Max Teare, Kansas City; Evelyn Griffin, Buffalo; Tom R. Burcham, Jr., Farmington; Kathleen Smith, St. Louis.

Industrial Health—Paul J. Centner, Kansas City, Chairman; Wm. L. Macon, St. Louis; Associate Members: Horace A. Lowe, Jr., Springfield; C. R. McAdam, St. Louis; William P. Folck, Kansas City.

Medical-Legal—Leonard T. Furlow, St. Louis, Chairman; Charles B. Wheeler, Kansas City; Lysle M. Bach, Hannibal; Frederick J. McCoy, Kansas City; Daniel L. Yancey, Springfield; John J. Modlin, Columbia; Lee T. Ford, Jr., St. Louis.

Nursing and Paramedical Personnel—John H. Walters, Columbia, Chairman; Manning E. Grimes, St. Joseph; Joseph Cope, Lexington; Angelo Lapi, Kansas City; A. J. Signorelli, St. Louis.

Rural Medical Service—Charles A. Worley, Sweet Springs, Chairman; B. J. Bass, Salem; J. Marshall Jung, Illmo; James H. Sweiger, Maysville; K. S. Latham, California; H. F. Hoelscher, Warrenton; James E. Campbell, Macon; T. M. MacDonnell, Marshfield.

Study of Cardiac Disease—James G. Janney, St. Louis, Chairman; James Mackenzie, Columbia; R. E. Staufflebaum, Springfield; Wm. J. Shaw, Sr., Fayette; Jack S. Sanders, Jefferson City; Keith H. Averill, Kansas City; C. Rollins Hanlon, St. Louis; Caryl A. Potter, St. Joseph; David V. Miller, Poplar Bluff; Joseph C. Edwards, St. Louis; J. Tenbrook King, Kansas City.

Tuberculosis—Florence E. MacInnis, Kansas City, Chairman; Paul Murphy, St. Louis; Wm. J. Gillespie, St. Louis; James F. O'Malley, Kansas City; I. J. Flance, St. Louis; John W. Polk, Springfield; Sheldon B. Beecher, Poplar Bluff; Judson I. Chalkley, Columbia; C. A. Brashear, Mount Vernon.

Laboratory Medicine—Wm. R. McPhee, Kansas City, Chairman; Victor B. Buehler, Kansas City.

The Committee on Public Service will also be appointed at a later date.

Doctor Benoit announced that he had just learned that Dr. Leonard T. Furlow would retire and he would appoint the latter's replacement as chairman of the Medical-Legal Committee at a later date. He also announced that new members of the Committees on Legislative Affairs and Public Service would be announced at a later date. He then announced the appointment of a new Committee on Marine Research, which will be chaired by Dr. Byron Stuart. Dr. Benoit invited interested members to volunteer service on this Committee.

The Speaker announced that the next Annual Session of the Association would be held from March 28 to 31, 1967, starting on Thursday and running through Sunday.

The Jackson County Medical Society invited the Association to hold the 1968 Session in Kansas City. The motion to accept the invitation was seconded and passed.

There being no additional business, the Speaker declared the 1967 Session adjourned.

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Dixon, John R., Brookfield
Dowell, Donald M., Chillicothe
Dunshee, R. E., Maryville
Fakhoury, Donald A., Kansas City
Fisher, Joseph L., St. Joseph
Gearhart, Merriam, Bethany
Horner, Glennon, Marceline
Humphrey, James, Mound City
Imes, Ed, Maryville
Jimenez, Jose, St. Joseph
King, Phillip E., Liberty
McDonald, Wilbur P., St. Joseph
McPhee, W. R., Kansas City
Marlin, J. N., St. Joseph
Moen, B. H., St. Joseph
Morgan, Troy, Albany
Parker, H. Graham, Platte City
Potter, Thompson E., St. Joseph
Rice, Hubert, Brookfield
Riddell, R. V., St. Joseph
Rosenthal, Irwin, St. Joseph
Rost, William B., St. Joseph
Schertz, T. B., North Kansas City
Wadlow, E. E., St. Joseph
Williams, R. D., Smithville
Willman, C. R., St. Joseph
Withrow, John B., Kansas City

Second Councilor District—19

Bach, Lysle M., Hannibal
Barnett, F. A., Paris
Campbell, James E., Macon
Davis, Landis Y., Canton
Dodson, Dan, Monroe City
Dreyer, Philip V., Huntsville
English, Milton T., Kirksville
Fischer, T. J., Hannibal
Fleming, J. Will, Moberly
Fleming, Thomas S., Moberly
Grant, Albert J., Hannibal
Harms, F. L., Salisbury
Isom, Waldo B., Knox City
Latimer, Walter N. A., Hannibal
Lewellen, Charles H., Louisiana
Plowman, Edward M., Hannibal
Rowlette, A. P., Moberly
Szymanski, Stanley, Macon
Wilcoxen, W. B., Bowling Green

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Ahern, Arch M., St. Louis
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Allen, William E., Jr., St. Louis
Apicella, S., Affton
Aufdenheide, G. R., St. Louis
Barden, F. W., St. Louis
Bartlett, Robert W., St. Louis
Bartlett, Willard, Jr., St. Louis
Becker, Stanley C., St. Louis
Belew, Joe E., St. Louis
Bell, Robert M., St. Louis
Berg, Ralph, St. Louis
Bergman, Hugo F., St. Louis
Bindbeutel, Don, St. Louis
Bohne, William R., St. Louis
Boldizer, Alhert E., St. Louis
Bondurant, Bryce H., St. Louis
Bowen, S. F., Jr., St. Louis
Bowerman, Harold H., St. Louis
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Brangle, Rohert W., St. Louis
Brodeur, Armand E., St. Louis
Bruce, Helen L., St. Louis
Bruns, Kenneth, St. Louis
Bryan, James H., Clayton
Burford, Cyrus E., St. Louis
Burford, Thomas H., St. Louis
Burmeister, R. W., St. Louis
Caciolo, Carlo, St. Louis
Cannon, Edward M., St. Louis
Casey, E. J., St. Louis
Cate, Thomas R., St. Louis
Clark, Clarence L., Creve Coeur
Cooper, T. J., St. Louis
Dahms, Gustave, St. Louis
Devine, John B., St. Louis
Dillard, Burl M., St. Louis
Dodd, Robert B., St. Louis
Dorton, Robert K., Clayton
Drews, Robert C., Clayton
Dyer, Dallas J., St. Louis
Eades, D. W., St. Louis
Eberle, John P., St. Louis
Edwards, Joseph C., St. Louis
Egan, Robert C., St. Louis
Ernst, E. C., Jr., St. Louis
Ernst, E. C., Sr., St. Louis
Ferguson, Thomas B., St. Louis
Finnegan, Joseph V., St. Louis
Fischer, Erich, St. Louis
Fitzgerald, Leo P., St. Louis
Fox, Robert E., St. Louis
Franklin, Max S., St. Louis
Friedman, Paul, St. Louis
Fries, Armand D., St. Louis
Fujita, Milton T., St. Louis
Furlow, Leonard T., St. Louis
Gillespie, William, Clayton
Glassherg, B. Y., St. Louis
Graul, Elmer G., St. Louis
Griffith, John K., St. Louis
Griggs, James Y., Clayton
Gunn, Walter T., St. Louis
Haddock, James N., Clayton
Harell, Alex, St. Louis
Harper, Fleming B., St. Louis
Hartstein, Jack, St. Louis
Hartwig, John A., St. Louis
Hawkins, George L., Jr., Webster Groves
Hennelly, John J., St. Louis
Hertel, Ronald C., St. Louis
Hickey, James L., St. Louis
Hilbert, Paul H., St. Louis
Hollo, Vencel W., St. Louis
Holtz, Alan S., Kirkwood
Huck, Richard, St. Louis
Hulbert, Bernard, St. Louis
Inkley, John J., St. Louis
Jensen, Joshua E., St. Louis
Johnstone, John, Jr., Kirkwood
Jones, Otey S., St. Louis
Jost, C. A., St. Louis
Joyer, Robert M., St. Louis
Judd, Donald, St. Louis
Kappesser, N. B., St. Louis
Kappesser, R. C., St. Louis
Karandjeff, A. D., St. Louis
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Kelley, R. W., St. Louis
Kendig, John H., St. Louis
King, John V., Webster Groves
Kleinschmidt, Clinton, St. Louis
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Kowert, E. H., St. Louis
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Kopp, L. J., St. Louis
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Ladd, Charles B., St. Louis
LeBlanc, Leo, St. Louis
Lederman, Joseph, St. Louis
Lerwick, E. R., Clayton
Liese, Grover, St. Louis
Lischer, Carl E., St. Louis
Loeffel, Ellen, St. Louis
Lonergan, Warren M., St. Louis
Lonsway, Maurice J., St. Louis
Lottes, J. Otto, St. Louis
Lowenstein, Paul S., St. Louis
Lucido, Joseph L., St. Louis
Luedde, Philip S., St. Louis
McLean, Harry A., St. Louis
McNamara, John, St. Louis
Macon, William L., Jr., St. Louis
Malles, A. Conrad, St. Louis
Mannis, Ben G., St. Louis
Max, Paul F., St. Louis
Merenda, Sam J., St. Louis
Michael, V. E., St. Louis
Millikin, Lester A., St. Louis
Milster, Clyde R., St. Louis
Monafo, William, St. Louis
Moore, Alva, St. Louis
Morris, M. E., St. Louis
Mueller, Robert, St. Louis
Muether, R. O., St. Louis
Murphy, James P., Clayton
Muschany, Norman K., St. Louis
Nakada, J. R., Clayton
Neilson, Arthur W., St. Louis
Nelson, James S., Brentwood
Nester, C. A., St. Louis
Newman, Percy, St. Louis
Nishi, Toshio, St. Louis
Oakley, Margaret M., St. Louis
Olmsted, William H., St. Louis
O'Neal, Lawrence W., Clayton
Orenstein, Joseph M., St. Louis
Paine, Robert, St. Louis
Pennington, F. Eugene, St. Louis
Pernoud, F. G., St. Louis
Pernold, Michael F., St. Louis
Powell, Earl A., St. Louis
Probstein, J. G., St. Louis
Pruett, Burchard S., St. Louis
Ramsey, Robert H., St. Louis
Repetto, A., St. Louis
Ritter, H. A., St. Louis
Rosenfeld, Henry, St. Louis
Roth, John J., St. Louis
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Schuessler, W. P., St. Louis
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Scopelite, J. A., St. Louis
Scott, Elwin P., St. Louis
Sexton, Daniel L., Clayton
Sherwin, Charles S., St. Louis
Signorelli, A. J., St. Louis
Smith, Kathleen, St. Louis
Spiro, Joel M., St. Louis
Stafford, Walter R., Clayton
Steinberg, Franz U., St. Louis
Stephens, LeRoy J., St. Louis
Stokes, James M., St. Louis
Stolar, Jacob, St. Louis
Stoneman, William, III, St. Louis
Strauss, Arthur E., St. Louis
Stutsman, A. C., St. Louis
Sweet, Herbert C., St. Louis
Swope, Joseph A., St. Louis
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Thompson, J. W., St. Louis
Tichenor, R. W., St. Louis
Tjoflat, Oliver E., St. Louis
Tonelli, George L., St. Louis
Turner, C. M., St. Louis
Ungvari, Joseph C., St. Louis
Wacker, Leo L., St. Louis
Wall, Emmett D., St. Louis
Weyerich, L. F., St. Louis
Whittico, James M., St. Louis
Wiegand, Herbert C., St. Louis
Wilucki, M. R., St. Louis
Wirthlin, E. H., St. Louis
Yang, Jae H., St. Louis
Yore, Richard W., St. Louis
Younge, Walter A., St. Louis
Zink, O. C., St. Louis
Zuckner, Jack, St. Louis

Fourth Councilor District—88

Allbee, Roger H., Crystal City
Bailey, W. H., St. Louis
Berry, Paul T., Troy
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Brenner, Paul A., Owensville
Briscoe, John R., Maplewood
Carr, G. Thomas, St. Louis
Coldwater, K. B., St. Louis
Costrino, J. A., St. Louis
Cowdry, Edmund V., Jr., St. Louis
Crawford, K. J., St. Louis
Creech, Joseph C., Troy
Crider, Russell J., St. Charles
Damron, E. O., Elsberry
Davis, E. W., St. Louis
Diehr, M. A., St. Louis
Donnell, R. H., Crystal City
Eber, Carl T., St. Louis
Eidelman, Jack R., St. Louis
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Eller, C. Howe, Clayton
Estes, J. M., St. Louis
Fallet, Charles E., DeSoto
Feldman. David, St. Louis
Fletes, James W., Normandy
Fox, Leon J., St. Louis
Froelich, Edwin J., Lebanon
Gitt, Joseph J., St. Louis
Goodman, J. N., St. Louis
Hetlage, L. P., Troy
Johnson, Grover, Marthasville
Keller, R. M., Wentzville
Kendis, Joseph B., St. Louis
King, E. E., St. Louis
Kingsland, Robert C., Clayton
Kister, George E., St. Charles
Klippel, Allen P., Claxton
Krieger, John L., St. Louis
Lauber, Joseph J., Creve Coeur
Leslie, C. H., Des Peres
Lewin, W. Howard, St. Louis
Linsenmeyer, Charles M., St. Charles
Lord, Richard E., St. Louis
Magness, Guy N., University City
Mayer, Robert A., St. Louis
Meador, James R., Clayton
Miles, Paul W., St. Louis
Miller, Charles, Jr., Kirkwood
Monat, Seymour, St. Louis
Montes, Arturo C., St. Louis
Muench, L. O., Washington
Parker, Brent, Glendale
Peebles, J. B., Kirkwood
Phillips, Hanford, St. Louis
Poggmeier, W. H., St. Charles
Richardson, William R., Union
Richtarsic, S. R., Overland
Roblee, Melvin A., Clayton
Rosenstein, Daniel L., University City
Rother, Paul H., St. Charles
Ruhling, Rudy, St. Louis
Rutledge, John F., Festus
Schattyn, J. Martyn, St. Louis
Schwartz, Melvin M., St. Louis
Sisk, James, Clayton
Stein, Leonard, St. Louis
Steiner, A. J., St. Louis
Sterling, John A., Kirkwood
Strehlman, Benjamin G., Union
Sutter, Richard A., St. Louis
Tashma, S., University City
Thiele, Belmont, St. Louis
Torin, Bernice, St. Louis
Trueblood, A. C., Jr., Kirkwood
Vatterott, Paul B., Creve Coeur
Vinyard, Paul, Ferguson
Vitale, Anthony J., St. Louis
Vitale, Nicholas S., St. Louis
Walker, Willard B., St. Louis
Weisman, Sol, St. Louis
Whitener, Miles C., St. Louis
Whitener, Paul R., St. Ann
Wiedershine, Len, St. Louis
Wipfler, Earl J., St. Charles
Workman, George, Hermann
Wulff, George, St. Louis
Yap, Mardonio J. R., Chesterfield
Yoskit, Harry, Festus

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Anderson, Phil, Columbia
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Bloom, W. A., Fayette

Bradley, William W., Centralia
Buesseler, John A., Columbia
Cook, Galen B., Columbia
Cope, J. C., Columbia
Culley, Thomas S., Columbia
Davis, David, Columbia
Davis, Leonard, Mexico
Denninghoff, James, Columbia
Durst, Henry, Fulton
Exon, C. S., Jefferson City
Gallagher, Lionel, California
Garner, Lynn M., Jefferson City
Gordon, James S., Jefferson City
Griffin, William T., Columbia
Gunn, Jack, Versailles
Jackson, Robert L., Columbia
Jolly, Ben M., Mexico
Kanagawa, H., Jefferson City
Loyd, Earl L., Jefferson City
Marco, Philip J., Columbia
Matthews, John I., Jefferson City
Meinershagen, C. W., Jefferson City
Miller, Leroy, Columbia
Melia, B. J., Jr., Jefferson City
Metzgar, Marshall T., Columbia
Mitchell, F. L., Columbia
Ray, C. Thorpe, Columbia
Ridings, G. R., Columbia
Ritterbusch, J. K., Fulton
Schewe, E. J., Columbia
See, William B., Columbia
Shaw, William J., Fayette
Shaw, William J., Jr., Fayette
Shull, G. Donald, Jefferson City
Silberman, Henry K., Columbia
Simmons, Earl M., Jr., Columbia
Smith, Grafton A., Columbia
Somers, John, Columbia
Stauffer, Harry B., Jefferson City
Stephenson, Hugh E., Jr., Columbia
Stewart, William J., Columbia
Stuart, Byron M., Boonville
Summers, Joseph S., Jefferson City
Tanner, Robert H., Jefferson City
Tietjen, Fred O., Jefferson City
Wakerlin, G. E., Columbia
Walters, John H., Columbia
Walters, Laura, Columbia
Washburn, J. Loren, Versailles
Watson, Trevor, Columbia
Watts, Byron E., Jefferson City
Weiss, James M. A., Columbia
White, J. Earle, Columbia
Wilson, George P., Columbia
Wilson, Vernon E., Columbia
Winn, G. W., Boonville
Ziegler, Anthony, Vandalia

Sixth Councilor District—29

Aiken, George A., Marshall
Brady, H. S., Concordia
Cope, Joe, Lexington
Davault, G. K., Richmond
Eklund, A. W., Pleasant Hill
Fisher, Stanley D., Sedalia
Frein, Donald E., Leeton
Goldberg, I. E., Braymer
Gonser, Karl B., Sedalia
Hansen, Arthur L., Butler
Haynes, Robert C., Marshall
Johnson, C. S., Warrensburg
Jones, Edward S., Harrisonville
Jones, Keith D., Warrensburg
Kelling, Jordan, Waverly
King, Richard H., Clinton
Koppenbrink, W. E., Jr., Higginsville
Lederer, C. M., Warrensburg
McBurney, A. Alex, Slater
McCorkle, E. Lee, Marshall
Maddox, A. R., Sedalia
Martin, W. E., Odessa
Pascoe, James J., Nevada
Reid, James A., Marshall
Siegel, Carl D., Kansas City
Stauffacher, C. Gordon, Sedalia
Tracy, Herbert A., Belton
Watson, Cecil L., Marshall
Wray, R. B., Nevada

Seventh Councilor District—55

Anderson, Raymond B., Shawnee Mission, Kan.
Andrews, B. W., Kansas City
Aschman, Theodore H., Kansas City
Bachmann, Paul L., Independence
Baer, Alvin J., Kansas City
Barelli, Pat A., Kansas City
Barnard, John L., Kansas City
Benoit, Hector W., Jr., Kansas City
Bowser, John F., Kansas City
Brust, Carl H., Mission, Kansas
Buhler, Victor B., Kansas City
Calovich, Emery R., Kansas City
Carrier, Edson C., Kansas City
Connell, Evan S., Kansas City
Elser, Otto H., Independence
Forsythe, Robert W., Kansas City
Fowler, Fred D., Kansas City
Fritzlen, Thomas J., Kansas City
Kyger, John E., Independence
Lapi, Angelo, Kansas City
Leitch, C. G., Blue Springs
Linville, Howard E., Kansas City
Lytton, George J., Kansas City
McCoy, Frederick J., Kansas City
MacInnis, Florence E., Kansas City
McVay, James R., Jr., Kansas City
Masterson, Byron, Kansas City
Meyer, Paul W., Kansas City
Miller, Gerald L., Kansas City
Robison, James T., Shawnee Mission, Kan.
Rubin, Sidney, Kansas City
Sabates, Felix N., Kansas City
Shelden, Russell D., Kansas City
Shires, Edward B., Kansas City
Smith, Othello D., Kansas City
Stacey, Wallace R., Independence
Gregory, Ralph W., Kansas City
Griffith, John A., Kansas City
Growdon, John A., Kansas City
Hall, Ralph R., Kansas City
Hill, J. H., Leawood, Kansas
Hollweg, Kenneth C., Kansas City
Hunt, Claude, Kansas City
Justus, John B., Kansas City
Kennard, G. K., Kansas City
Kranson, Seymour J., Independence
Statland, Harry, Kansas City
Stelmach, W. J., Kansas City
Stone, Raymond F., Kansas City
Thomas, C. Y., Jr., Kansas City
Underwood, Dick H., Kansas City
Vaughn, J. W., Kansas City
Tice, Wayne K., Independence
Wall, L. A., Kansas City
Wheeler, Charles, Kansas City

Eight Councilor District—54

Anthony, Dallas D., Springfield
Ashley, Thomas E., Springfield
Bauer, Harold, Lockwood
Blankenship, G. W., Neosho
Bonebrake, M. D., Springfield
Brown, F. B., Aurora
Brown, James T., Springfield
Brown, Lyman D., Springfield
Callaway, Guy D., Springfield
Callaway, Guy D., Jr., Springfield
Clary, William F., Springfield
Clawson, J. W., Springfield
Cohle, Richard R., Carthage
Dietz, M. Wendell, Springfield
Donley, Robert R., Monett
Ellis, Harry L., Springfield
Ferguson, Lewis H., Joplin
Gardner, Joseph W., Reeds Spring
German, W. A., Springfield
Glover, Kenneth, Mt. Vernon
Griffin, Evelyn, Buffalo
Griffin, O. A., Buffalo
Hall, Marvin F., Joplin
Holmes, Daniel, Springfield
Ivy, Berry, Springfield
Johnson, George A., Springfield
Johnson, William F., Springfield
Koon, Ben, Bolivar
Lewis, Noel R., Springfield
McAlhany, Howard, Springfield
McCraw, Doyle, Bolivar
McNew, William T., Carthage
Macdonnell, T. M., Marshfield
Maher, Robert W., Springfield
Menchetti, Don, Springfield
Moseley, F. Thomas, Springfield
Newman, Mary, Cassville
Patterson, Grover S., Carthage
Peterson, Stanley S., Springfield
Polk, John W., Springfield
Post, Winfred L., Joplin
Powell, Robert G., Joplin
Roper, Stanley D., Ozark
Siceluff, J. G., Springfield
Smith, C. Souter, Springfield
Thomasson, David D., Springfield
Tillman, Walter W., Springfield
Tombridge, Thomas, Springfield
Trotter, W. Yates, Springfield
Turner, Glenn O., Springfield
Vail, A. D., Springfield
Wilson, Roy E., Springfield
Wommack, Fred L., Crane
Wooldridge, W. E., Springfield

Ninth Councilor District—12

Bass, B. J., Salem
Butts, James D., Rolla
Coffee, Amos L., Willow Springs
Cooper, C. W., Thayer
Froelich, R. W., Lebanon
Hammler, Christiana V., St. James
Hart, Martin M., Salem
Morgan, W. Thomas, Jr., West Plains
Myers, J. M., Rolla
Smith, C. Franklin, Willow Springs
Spears, Joe, Cabool
Stricker, E. A., St. James

Tenth Councilor District—30

Appleberry, C. H., Rivermines
Ashley, Hugh V., Cape Girardeau
Bull, Ben M., Ironton
Burford, E. K., Cape Girardeau
Cook, D. W., Caruthersville
Cresswell, George F., Potosi
Crowe, John T., Cape Girardeau
Dettmer, Robert F., Ironton
English, W. D., Cardwell
Estes, Albert M., Cape Girardeau
Fairchild, J. F., Perryville
Frazier, R. L., Charleston
Hansbrough, Eugene T., Poplar Bluff
Huckstep, R. A., Farmington
Jung, J. Marshall, Illmo
Kasten, Melvin C., Cape Girardeau
McDermott, A. E., Perryville
McLain, B. M., Poplar Bluff
Miller, David V., Poplar Bluff
Mullen, Jack, Bonne Terre
Osborn, Retus W., Farmington
Parks, Stephen, Sikeston
Rapp, Harold B., Cape Girardeau
Ruff, T. Eugene, Poplar Bluff
Seabaugh, O. L., Cape Girardeau
Shoss, Milton, Cape Girardeau
Stewart, Wendell K., Cape Girardeau
Turner, Kirby L., Potosi
Urban, E. D., Sikeston
Wolff, Paul, Cape Girardeau

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Each Numa Dura-Tab provides:

theophylline	225 mg.
ephedrine HCl	50 mg.
butabarbital	25 mg.

(Warning: butabarbital may be habit-forming.)

Numa Dura-Tabs provide *prolonged* three-way action to ease breathing. Theophylline, a potent bronchodilator with minimal effect on the CNS, opens air passages and reduces bronchial spasm. Ephedrine HCl improves breathing capacity through its decongestant action. Butabarbital, a mild sedative, allays fear and apprehension.

Dosage: One Numa Dura-Tab every 8 to 12 hours helps keep the asthmatic patient symptom-free all day/all night.

Precautions: Use with caution in cardiovascular or hyperthyroid disease, severe hypertension, circulatory collapse, prostatic hypertrophy, or glaucoma.

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109TH ANNUAL SESSION EXHIBITORS

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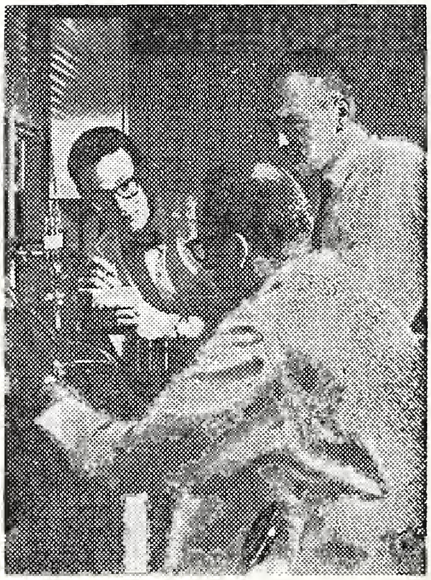
Aloe Medical, St. Louis
Arnar-Stone Laboratories, Inc., New Brunswick, N. J.
Beecham Research Laboratories, Inc., New York, N. Y.
Blue Cross and Blue Shield, St. Louis and Kansas City
Bock Pharmacal Co., St. Louis
Bristol Laboratories, Syracuse, N. Y.
Carnation Company, Los Angeles, Calif.
Ciba Pharmaceutical Co., Summit, N. J.
The Coca-Cola Co., Atlanta, Ga.
Cole Pharmacal Co., St. Louis
Dome Laboratories, New York, N. Y.
Eaton Laboratories, Norwich, N. Y.
Encyclopaedia Britannica, Inc., Chicago, Ill.
Esta Medical Laboratories, Inc., New Brunswick, N. J.
Geigy Pharmaceuticals, Ardsley, N. Y.
Hamilton-Schmidt, St. Louis
Hewlett-Packard Crossley Sales Division, Skokie, Ill.
Mead Johnson Laboratories, Evansville, Ill.
Lederle Laboratories, Pearl River, N. Y.
Eli Lilly and Co., Indianapolis, Ind.
McNeil Laboratories, Inc., Fort Washington, Pa.
Mallinckrodt Pharmaceuticals, St. Louis
The Medical Protective Co., Fort Wayne, Ind.
Merck Sharp and Dohme, West Point, Pa.
Miller Pharmacal Co., St. Louis
North American Pharmacal Co., Dearborn, Mich.
John Nuveen and Co., New York, N. Y.
Ortho Pharmaceutical Corp., Raritan, N. J.
Parke Davis and Co., Detroit, Mich.
Philips Roxanne Laboratories, Columbus, Ohio
William P. Poythress and Co., Richmond, Va.
Professional Management, Inc., St. Louis
Professional Management Midwest, Kansas City
Roche Laboratories, Nutley, N. J.
J. B. Roerig and Co., New York, N. Y.
Rowell Laboratories, Inc., Baudette, Minn.
Thermo-Fax Sales, Inc., St. Louis
Sandoz Pharmaceuticals, Hanover, N. J.
W. B. Saunders Co., Philadelphia, Pa.
G. D. Searle and Co., Chicago, Ill.
Smith Kline and French Laboratories, Philadelphia, Pa.
Southwestern Bell Telephone Co., St. Louis
E. R. Squibb and Sons, New York, N. Y.
The Stuart Co., Pasadena, Calif.
Syntex Laboratories, Palo Alto, Calif.
U. S. Vitamin and Pharmaceutical Corp., New York, N. Y.
The Upohn Co., Kalamazoo, Mich.
United Medical Equipment Co., Kansas City



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MISSOURI STATE MEDICAL FOUNDATION
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Missouri State Medical Foundation

Minutes of the Annual Meeting
Chase Hotel, St. Louis
April 7, 1967

The meeting was called to order by W. W. Tillman, Jr., M.D., President, at 5:45 PM. A quorum was declared present. Dr. Tillman stated that the minutes of the 1966 Annual Meeting in Kansas City, immediately following the Monday afternoon, March 28, session of the MSMA House of Delegates, were published in the July 1966 issue of MISSOURI MEDICINE. He called for any additions or deletions to the minutes. There being none, the minutes of the 1966 meeting were declared approved as published. Dr. Tillman also pointed out that the minutes of the Board of Trustees meeting of the Foundation, following the 1966 Annual Meeting, were also published in the July 1966 issue of MISSOURI MEDICINE.

Dr. Tillman reported that a letter to all members of MSMA, over the signature of the President of the Foundation, soliciting donations to the Foundation was mailed in December, 1966. He stated that the results of that mailing were somewhat disappointing, even though many doctors feel that they are supporting the Foundation through the MSMA $7.50 per year assessment.

Dr. Tillman directed attention to the financial status of the Foundation as of February 1, 1967, a mimeographed copy of which had previously been passed out to those in attendance and reads as follows:

RECEIPTS AND DISBURSEMENTS 1/1/66 THROUGH 1/31/67

Cash Balance on hand 1/1/66			$ 6,968.11
Savings			34,594.93
			$41,563.04
INCOME—1966			
MSMA Assessment, balance 1965		$ 979.09	
MSMA Assessment, 1966		25,977.77	
Contributions Received:			
Physicians	$1,645.00		
Medical Societies	250.00		
Other	2,565.00		
Bequest	5,000.00	9,460.00	
Loan Repayments		12,609.85	
Interest on Loans		1,280.71	50,307.42
Total Income, 1966			$ 91,870.46
Income 1/1/67-1/31/67			1,994.98
Interest on Savings			1,573.08
			$ 95,438.52
Disbursements—1966:			
Loans issued, through 12/31/66 (79 Loans)		50,785.36	
Loans issued, 1/1/67-1/31/67 (35 Loans)		21,600.00	
Legal Fees (see Bequest)		400.00	72,785.36
Cash on Hand			$ 22,653.16

1966		
Contributions:		
Physicians (56)		$ 1,645.00
Medical Societies:		
West Central Missouri	$ 100.00	
South Central Counties	150.00	250.00
Others:		
Foster Drugs	100.00	
Medical Arts Pharmacy	125.00	
Thomas Standard Drug	100.00	
Long's Drug	200.00	
Knight Drug	1,500.00	
Woman's Auxiliary	100.00	
Bequest	5,000.00	
Tribute—Memorials	440.00	7,565.00
		$ 9,460.00

Loan Recapitulation

Total Operations September, 1960 to February 1, 1967

Income to Date (including interest and Auxiliary Loan Fund)		$245,714.94
Loans Made to Students to date (including Auxiliary)	$248,807.89	
(Less) Loan Repayments (including Auxiliary)	25,746.11	
Loans Outstanding	$223,061.78	223,061.78
Balance on Hand		$ 22,653.16

Total Number of Loans Granted	472
Number of Different Students Receiving Loans	198

At the 1964 Annual Meeting, the report was submitted that the Foundation was to be a recipient of $5,000 in the near future from a will which was being probated in St. Louis. The bequest was received, less legal fees, net $4,600.

Dr. Tillman called for the next order of business which was the election of one member to the Board of Trustees for a term of one year to replace Dr. Hector W. Benoit, Jr., who becomes an ex-officio member as President of the Missouri State Medical Association, and two members to the Board of Trustees for five-year terms. Dr. Ben Bull, reporting for the Nominating Committee, submitted the names of Dr. Kenneth Hollweg, Kansas City, for the one-year unexpired term, and Dr. Paul R. Whitener, St. Louis County, and the re-election of Dr. Charles R. Doyle, St. Louis, to serve for five-year terms. Dr. Tillman called for additional nominations for the floor. There being none, a motion was made, seconded and passed that the nominations cease and Drs. Hollweg, Whitener and Doyle be elected by acclamation.

Dr. Tillman then called for any other business to come before the meeting. There was none. He then announced there would be a short meeting of the Board of Trustees immediately following the adjournment of the Annual Meeting.

The meeting was adjourned at 6:00 P.M.

Minutes of the MSMF Board of Trustees Meeting Chase Hotel, St. Louis April 7, 1967

The meeting of the Board of Trustees was called to order by W. W. Tillman, Jr., M.D., President, immediately following the adjournment of the Annual Meeting of the MSMF. Present were: Drs. Tillman, Cross, Doyle, Benoit, Whitener, Hollweg and Bull.

Dr. Tillman explained that the purpose of this meeting was for the election of officers. He then called for nominations for the office of President. The name of Dr. Paul R. Whitener was placed in nomination. No further nominations were offered and Dr. Whitener was unanimously elected President.

Dr. Whitener then assumed the position as President and called for nominations for the office of Vice President. The name of Dr. Albert D. Cross was placed in nomination. No other nominations were offered and Dr. Cross was unanimously re-elected Vice President.

Nominations were requested for Secretary-Treasurer and the name of Dr. Charles R. Doyle was presented. There being no additional nominations, Dr. Doyle was unanimously re-elected Secretary-Treasurer.

A motion was made, seconded and passed that the following Committee of the Board be authorized to make loans to medical students, residents of Missouri, in the name of the MSMF, using funds of the Foundation for that purpose: Drs. Charles R. Doyle, R. E. Bregant and R. H. Tanner.

Mr. Thomas P. Fox was appointed Assistant Secretary to assist in the administration of the Foundation's program.

It was agreed that the fund solicitation letter should be continued and mailed in the month of October or by the 15th of November.

By-Laws were amended to record the new address of administrative services from St. Louis to Jefferson City, including the official seal and records filed with the Secretary of State.

There being no further business, the Board was declared adjourned at 6:10 P.M.

CLASSIFIED ADS

FOR LEASE—750 square feet in Rockhill Medical Building, Kansas City, Mo. Suitable for general medicine. Call DE 3-6446 for details.

ENT practice and office space in North Kansas City, Mo. available immediately for a very nominal sum, due to the death on April 1967 of Maurice W. Chastain, M.D. Close to hospital facilities. Excellent opportunity for someone who desires to follow a successful established practice of high calibre. Contact Mrs. Chastain, 2016 Swift Street, North Kansas City, or call BA 1-1430 or GL 2-4061.

I WILL RETIRE May 1, 1968. Have available for very nominal sum a completely furnished nine room suite with X-ray. Close to large hospitals. Excellent opportunity for someone who desires a ready-made practice of high caliber. Gordon P. Barnett, M.D., 751 E. 63rd Street, Suite 368, Kansas City, Mo. 64110. Phone JA 3-4466.

FOR RENT—809 square feet of office space on Country Club Plaza. Physicians or allied professions only. Contact Mrs. Adams, 6101 Martway, Mission, Kansas, or call HE 2-9117.

ESTABLISHED PRACTICE in a new Kansas City, Mo., shopping center. Open to a physician willing to complete a three year lease. Robert L. Ward, M.D., 6022 North Antioch Rd., Kansas City, Mo. 64119. Phone AC-816, CL 4-1717.

WANTED—Young general practitioner for associate or partner immediately. Need help in very busy practice in Jefferson City, Mo., 30 miles from University of Missouri Medical Center and 40 miles from Lake of the Ozarks. All advantages of a town of 25,000: symphony orchestra, good schools (public and private), parks, four-year University, fishing and hunting nearby. Financial arrangements extremely flexible. Grossing $60,000 plus after one year practice. Am 30 years old, family man, member of AAGP and Alpha Omega Alpha, pilot and avid hunter and fisherman. Contact Box 335, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo.

FOR SALE—Physician's office equipment and instruments comprising one Steelline, white enamel examining table with two drawers, two cabinets and matching treatment chair; one white steel nose-and-throat chair; several dozen hemostatic forceps, Allis and towel forceps and scissors and thumb forceps, all in stainless steel. Retractors and other intruments in plated. All in like-new condition. Also, one GE ultra-violet mercury quartz light and an air compression and suction pump on stand. Call or write Charles D. Osborn, M.D., 710 West Broadway, Sedalia, Mo. 65301.

FOR SALE—Busy practice and equipment. Retiring. Excellent opportunity for young internist or general practitioner. Will lease or sell six room, custom-built office on first floor with laboratory in basement. Apartment on second floor optional. 250 MA X-ray with over and under tubes for G.I. work. Opposite large busy shopping center in St. Louis County. Will introduce and finance right party. Contact Box 336, c/o Missouri State Medical Association, 515 East High St., Jefferson City, Mo. 65101.

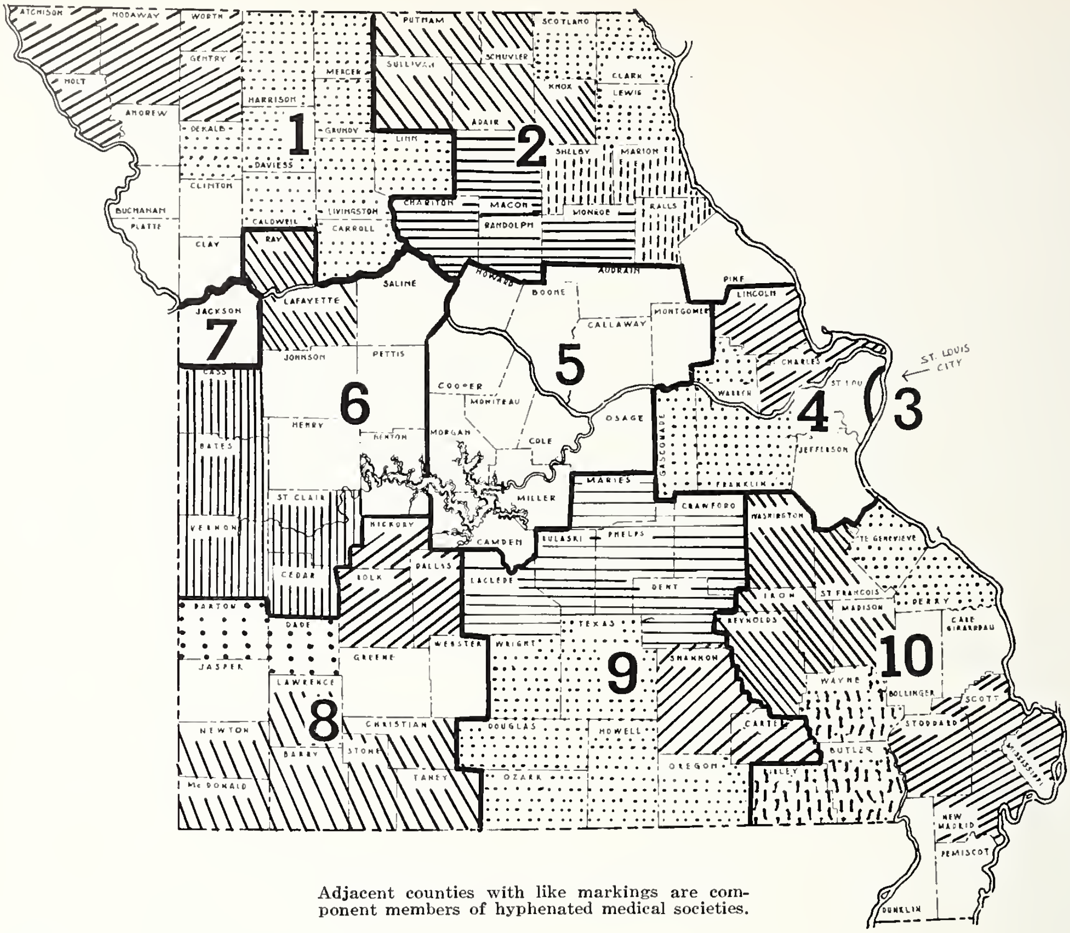
Purposes of Association

THE PURPOSES of the Missouri State Medical Association are to bring into compact organization the entire medical profession of the State of Missouri with the view of the extension of medical knowledge and the advancement of medical science, to promote and elevate the standards of medical education and the enactment and enforcement of just medical and public health laws, to encourage friendly intercourse among physicians, to guard and sustain measures of interest and advantage to the public and the medical profession, and to promote science, knowledge and skill among the medical profession.

1950 MSMA Handbook
Centennial Issue

Joseph V. Finnegan
Editor

Councilor Districts and Counties in Each District


ATCHISON
NODAWAY
WORTH
PUTNAM
SCOTLAND
GENTRY
SCHUYLER
MERCER
HOLT
CLARK
KNOX
LEWIS
HARRISON
ANDREW
1
ADAIR
DE KALB
GRUNDY
LINN
2
SHELBY
MARION
DAVIESS
CLINTON
MACON
RALLS
BUCHANAN
LIVINGSTON
CHARITON
MONROE
PLATTE
CALDWELL
CARROLL
RANDOLPH
CLAY
RAY
AUDRAIN
SALINE
HOWARD
PIKE
BOONE
LINCOLN
LAFAYETTE
JACKSON
MONTGOMERY
CALLAWAY
7
5
CHARLES
ST. LOUIS CITY
PETTIS
JOHNSON
WARREN
ST LOU
CASS
6
COOPER
MONITEAU
OSAGE
4
3
HENRY
BENTON
MORGAN
COLE
GASCONADE
BATES
JEFFERSON
FRANKLIN
ST CLAIR
MILLER
MARIES
CRAWFORD
HICKORY
WASHINGTON
VERNON
CAMDEN
PULASKI
PHELPS
STE GENEVIEVE
CEDAR
POLK
DALLAS
LACLEDE
DENT
BARTON
IRON
ST FRANCOIS
PERRY
DADE
MADISON
REYNOLDS
CAPE GIRARDEAU
TEXAS
JASPER
GREENE
WEBSTER
WRIGHT
10
9
SHANNON
LAWRENCE
WAYNE
BOLLINGER
SCOTT
8
NEWTON
CHRISTIAN
CARTER
STODDARD
DOUGLAS
HOWELL
MISSISSIPPI
BARRY
STONE
BUTLER
OREGON
McDONALD
TANEY
OZARK
RIPLEY
NEW MADRID
PEMISCOT
DUNKLIN

Adjacent counties with like markings are component members of hyphenated medical societies.

DISTRICT	COUNCILOR	COUNTIES
First	**Joseph L. Fisher, M.D.** (Vice-Chairman) St. Joseph	Andrew, Atchison, Buchanan, Caldwell, Carroll, Clay, Clinton, Daviess, De Kalb, Gentry, Grundy, Harrison, Holt, Linn, Livingston, Mercer, Nodaway, Platte and Worth
Second	**Lysle M. Bach, M.D.** Hannibal	Adair, Chariton, Clark, Knox, Lewis, Macon, Marion, Monroe, Pike, Putnam, Ralls, Randolph, Schuyler, Scotland, Shelby and Sullivan
Third	**Walter T. Gunn, M.D.** St. Louis	St. Louis (City)
Fourth	**Robert A. Mayer, M.D.** St. Louis County	Franklin, Gasconade, Jefferson, Lincoln, St. Charles, St. Louis (County) and Warren.
Fifth	**James C. Cope, M.D.** Columbia	Audrain, Boone, Callaway, Camden,* Cole, Cooper, Howard, Miller, Moniteau, Montgomery, Morgan and Osage*
Sixth	**Rolla B. Wray, M.D.** Nevada	Bates, Benton, Cass, Cedar, Henry, Johnson, Lafayette, Pettis, Ray, St. Clair, Saline and Vernon
Seventh	**Gerald L. Miller, M.D.** Kansas City	Jackson
Eighth	**Doyle C. McCraw, M.D.** (Chairman) Bolivar	Barry, Barton, Christian, Dade, Dallas, Greene, Hickory, Jasper, Lawrence, McDonald, Newton, Polk, Stone, Taney and Webster
Ninth	**E. A. Stricker, M.D.** St. James	Carter, Crawford, Dent, Douglas, Howell, Laclede, Maries, Oregon, Ozark, Phelps, Pulaski, Shannon, Texas and Wright
Tenth	**W. D. English, M.D.** Cardwell	Bollinger,* Butler, Cape Girardeau, Dunklin, Iron, Madison, Mississippi, New Madrid, Pemiscot, Perry, Reynolds, Ripley, St. Francois, Ste. Genevieve, Scott, Stoddard, Washington and Wayne

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* Counties with no medical organization.

Component Societies in Affiliation With the Missouri State Medical Association

COUNTY	DISTRICT	PRESIDENT	ADDRESS	SECRETARY	ADDRESS
Andrew	1	Gilbert B. Kelley	Savannah	Warren C. Baker	Savannah
Audrain	5	Harry O'Brien	Mexico	Thomas L. Dwyer	Mexico
Barton-Dade	8	Lee A. McNeel	Greenfield	Harold Bauer	Lockwood
Benton	6			James A. Logan	Warsaw
Boone	5	E. J. Schewe, Jr.	Columbia	George J. Fuchs, Jr.	Columbia
Buchanan	1	Irwin I. Rosenthal	St. Joseph	Maxwell Day	St. Joseph
Butler-Wayne-Ripley	10	Joe E. Hecker	Poplar Bluff	Jerry F. McLane	Poplar Bluff
Callaway	5	J. K. Ritterbusch	Fulton	Jay F. Tuttle	Fulton
Cape Girardeau	10	Jo Robert Cochran	Cape Girardeau	Dale M. Blankenship	Cape Girardeau
Carter-Shannon	9			Harry D. Rollins	Winona
Chariton-Macon-Monroe-Randolph	2	Avery P. Rowlette	Moberly	Robert Hasson	Moberly
Clay	1	John B. Withrow	Kansas City	Richard P. Bowles	Liberty
Clinton	1	Wilber Spalding	Plattsburg	John P. Mabrey	Plattsburg
Cole	5	F. O. Tietjen	Jefferson City	B. J. Melia, Jr.	Jefferson City
Cooper	5	Byron M. Stuart	Boonville	W. B. Avery	Boonville
Dallas-Hickory-Polk	8	Monte Kohler	Bolivar	Evelyn Griffin	Buffalo
Dunklin	10	Irwin Joffe	Paragould, Ark.	Quinton Tarver	Kennett
Franklin-Gasconade-Warren	4	Harold F. Hoelscher	Warrenton	R. W. Moellenhoff	Washington
Grand River Medical Society (Caldwell-Livingston-Carroll-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb)	1	Glennon A. Horner	Marceline	Albert D. Cross	Trenton
Greene	8	Guy D. Callaway, Jr.	Springfield	James S. Key	Springfield
Henry	6	Richard H. King	Clinton	Ray S. Hollingsworth	Clinton
Howard	5	Maurice P. Leech	Fayette	W. A. Bloom	Fayette
Jackson	7	Robert W. Forsythe	Kansas City	S. Ross Melgaard	Kansas City
Jasper	8	Grover S. Patterson	Carthage	Herbert J. Schmidt	Joplin
Jefferson	4	Karl V. McKinstry	DeSoto	James L. Mayfield	Crystal City
Johnson	6			O. H. Damron	Warrensburg
Lafayette-Ray	6	William C. LaHue	Lexington	Wayne Boydston	Odessa
Lewis-Clark-Scotland	2	Earl E. Gilfillan	Memphis	Landis Y. Davis	Canton
Lincoln-St. Charles	4	Eugene J. Canty	St. Charles	Vincent P. Perna	St. Louis
Marion-Ralls-Shelby	2	Edward M. Plowman	Hannibal	Albert J. Grant	Hannibal
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)	9	Rae W. Froelich	Lebanon	Barbara E. Russell	Rolla
Miller	5	E. O. Shelton	Eldon	Carl T. Buehler, Jr.	Eldon
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds)	10	Kirby L. Turner	Potosi	William Ford	Farmington
Moniteau	5	Kenyon S. Latham	California	L. M. Gallagher	California
Montgomery	5	E. J. T. Andersen	Montgomery City	Samuel J. Byland	Wellsville
Morgan	5	Jack Gunn	Versailles	Ruth Kauffman	Versailles
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)	2	Waldo B. Isom	Knox City	John B. Jones	Kirksville
Northwest Missouri Medical Society (Nodaway-Holt-Atchison-Gentry-Worth)	1	James Humphrey	Mound City	Frank B. Matteson	Grant City
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)	8	Roy E. Kenney	Neosho	Charles A. Spears	Branson
Pemiscot	10	Alan S. Gubin	Caruthersville	William Acuff	Caruthersville
Perry-Ste. Genevieve	10	J. F. Lutkewitte	Ste. Genevieve	Stanley G. Legner	Perryville
Pettis	6	John C. Brazos	Smithton	Donald Eidenburg	Sedalia
Pike	2	Edward K. Jackson	Clarksville	Lawrence G. Stuerman	Louisiana
Platte	1	Ireland W. Kimball	Kansas City	S. Lloyd Allen	Kansas City
St. Louis City	3	Max S. Franklin	St. Louis	Charles B. Ladd	St. Louis
St. Louis County	4	C. Read Boles	Clayton	Miles C. Whitener	St. Ann
Saline	6	James A. Reid	Marshall	Richard C. Raynor	Marshall
Semo County Medical Society (Stoddard-New Madrid-Scott-Mississippi)	10	Charles C. Reeder	New Madrid	Thelma C. Buckthorpe	Sikeston
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)	9	W. Thomas Morgan, Jr.	West Plains	Rollin H. Smith	West Plains
Webster	8	T. M. Macdonnell	Marshfield	Robert J. Bareis	Marshfield
West Central Missouri Medical Society (Bates-Cass-Cedar-St. Clair-Vernon)	6	A. W. Eklund	Pleasant Hill	Roy W. Pearse, Jr.	Nevada

Physician Distribution

(List of Missouri communities where MSMA member physicians are in active practice. Name of the community is followed by the county in which it is located and the medical society to which physicians of that community would normally belong.)

A

Affton, St. Louis*
Albany, Gentry, Northwest Missouri
Altenberg, Perry
Appleton City, St. Clair, West Central
Arnold, Jefferson
Aurora, Lawrence, Ozarks
Ava, Douglas, South Central

B

Ballwin, St. Louis*
Belton, Cass, West Central
Berkeley, St. Louis*
Bethany, Harrison, Grand River
Bismarck, St. Francois, Mineral Area
Bloomfield, Stoddard, SEMO
Blue Springs, Jackson
Bolivar, Polk, Dallas-Hickory-Polk
Bonne Terre, St. Francois, Mineral Area
Boonville, Cooper
Bourbon, Crawford, Mid Missouri
Bowling Green, Pike
Branson, Taney, Ozarks
Braymer, Caldwell, Grand River
Brentwood, St. Louis*
Bridgeton, St. Louis*
Brookfield, Linn, Grand River
Browning, Linn, Grand River
Brunswick, Chariton
Buckner, Jackson
Buffalo, Dallas
Butler, Bates, West Central

C

Cabool, Texas, South Central
Cainesville, Harrison, Grand River
California, Moniteau
Camdenton, Camden
Cameron, Clinton
Canton, Lewis
Cape Girardeau, Cape Girardeau
Cardwell, Dunklin
Carrollton, Carroll, Grand River
Carthage, Jasper
Caruthersville, Pemiscot
Cassville, Barry, Ozarks
Centralia, Boone
Chaffee, Scott, SEMO
Charleston, Mississippi, SEMO
Chesterfield, St. Louis*
Chillicothe, Livingston, Grand River
Clarksville, Pike
Clayton, St. Louis*
Clinton, Henry
Columbia, Boone
Concordia, Lafayette
Crane, Stone, Ozarks
Creve Coeur, St. Louis*
Crystal City, Jefferson
Cuba, Crawford, Mid Missouri

D

Desloge, St. Francois, Mineral Area
DeSoto, Jefferson
Dexter, Stoddard, SEMO
Doniphan, Ripley, Butler-Ripley-Wayne

E

East Prairie, Mississippi, SEMO
Edina, Knox, North Central
Eldon, Miller
El Dorado Springs, Cedar, West Central
Elsberry, Lincoln
Everton, Jackson
Excelsior Springs, Clay

F

Farmington, St. Francois, Mineral Area
Fayette, Howard
Fenton, St. Louis*
Ferguson, St. Louis*
Festus, Jefferson
Flat River, St. Francois, Mineral Area
Florissant, St. Louis*
Forsyth, Taney, Ozarks
Fort Leonard Wood, Pulaski, Mid-Missouri
Fredericktown, Madison, Mineral Area
Frontenac, St. Louis*
Fulton, Callaway

G

Gallatin, Daviess, Grand River
Gashland, Clay
Gideon, New Madrid, SEMO
Gladden, St. Louis*
Glasgow, Howard
Glendale, St. Louis*
Gordonville, Cape Girardeau
Gower, Clinton
Grandview, Jackson
Grant City, Worth, Northwest Missouri
Gravois Mills, Jackson
Greenfield, Dade, Barton-Dade

H

Hamilton, Caldwell, Grand River
Hannibal, Marion
Harrisonville, Cass, West Central
Hayti, Pemiscot
Herculaneum, Jefferson
Hermann, Gasconade, Franklin-Gasconade-Warren
Hickman Mills, Jackson
Higginsville, Lafayette
Hillsboro, Jefferson
Holden, Johnson
Hornersville, Dunklin
Houston, Texas, South Central
Humansville, Polk, Dallas-Hickory-Polk
Huntsville, Randolph, Chariton-Macon-Monroe-Randolph

I

Illmo, Cape Girardeau
Independence, Jackson
Ironton, Iron, Mineral Area

J

Jackson, Cape Girardeau
Jefferson Barracks, St. Louis*
Jefferson City, Cole
Jennings, St. Louis*
Joplin, Jasper

K

Kansas City, Jackson
Kennett, Dunklin
King City, Gentry, Northwest Missouri
Kirksville, Adair, North Central
Kirkwood, St. Louis*
Knobnoster, Johnson
Knox City, Knox, North Central
Koch, St. Louis*

L

Ladue, St. Louis*
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Lamar, Barton
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Leadwood, St. Francois, Mineral Area
Lebanon, Laclede, Mid Missouri
Lee's Summit, Jackson
Leeton, Johnson
Lemay, St. Louis*
Lexington, Lafayette
Liberty, Clay
Lockwood, Dade, Barton-Dade
Louisiana, Pike

M

Macon, Macon, Chariton-Macon-Monroe-Randolph
Malden, Dunklin
Maplewood, St. Louis*
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Marshall, Saline
Marshfield, Webster
Marthasville, Warren, Franklin-Gasconade-Warren
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Mexico, Audrain
Milan, Sullivan, North Central
Moberly, Randolph, Chariton-Macon-Monroe-Randolph
Monette, Barry, Ozarks
Montgomery City, Montgomery
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N

Neosho, Newton, Ozarks
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New Madrid, New Madrid, SEMO
Normandy, St. Louis*
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O

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Ozark, Christian, Ozarks

P

Pacific, Franklin
Palmyra, Marion
Paris, Monroe, Chariton-Macon-Monroe-Randolph
Parkville, Platte
Parma, New Madrid, SEMO
Pattonsburg, Daviess, Grand River
Pattonville, St. Louis*
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Pine Lawn, St. Louis*
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Plattsburg, Clinton
Pleasant Hill, Cass, West Central
Poplar Bluff, Butler
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Potosi, Washington, Mineral Area
Princeton, Mercer, Grand River

R

Raytown, Jackson
Reeds Springs, Stone, Ozarks
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Rich Hill, Bates, West Central
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S

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Sullivan, Franklin
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Troy, Lincoln

U

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Vandalia, Audrain
Versailles, Morgan

W

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Willow Springs, Howell, South Central
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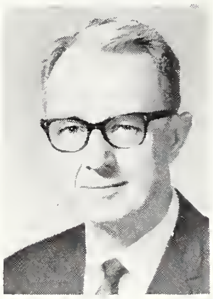

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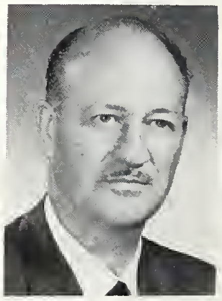

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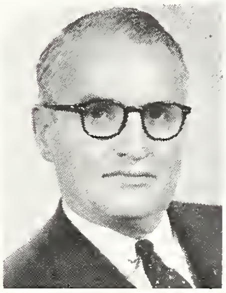
J. Loren Washburn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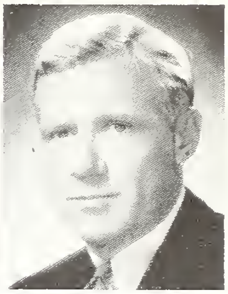
Robert Kelley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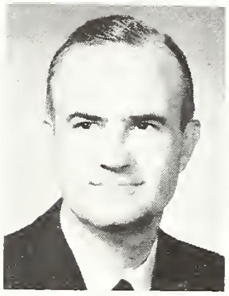
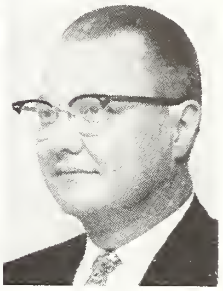

Thompson E. Potter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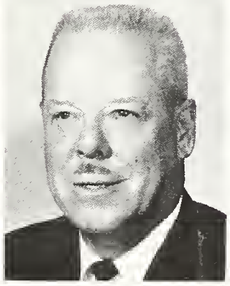
Vice-Chairman

Lysle M. Bach
2nd District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Robert A. Mayer
4th District

James C. Cope
5th District

Rolla B. Wray
6th District

Gerald L. Miller
7th District

Doyle C. McCraw
8th District
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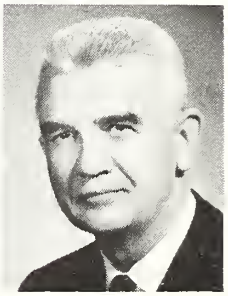
9th District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Mental Health—Robert S. Terrill, Kansas City, Chairman; Henry V. Guhleman, Jefferson City; Paul W. Hayes, St. Joseph; James N. Haddock, St. Louis; Robert D. Brookes, St. Louis; D. R. Edwards, Sedalia; James B. Allison, Springfield; Paul L. Barone, Nevada; Edward T. Auer, St. Louis; Leonard J. Wiedershine, St. Louis; Marie Mowrer, St. Louis; Charles B. Wilkinson, Kansas City (1968).

Constitution and By-Laws—Kenneth C. Hollweg, Kansas City, Chairman (1968); W. A. Bloom, Fayette (1969); James R. Meador, Clayton (1968); Byron M. Stuart, Boonville (1970); J. William Thompson, St. Louis (1970).

Control of Venereal Disease—Edwin M. Powell, Springfield, Chairman (1968); John Martin, St. Joseph (1969); T. E. McMillan, Kansas City (1968); James W. Bagby, Clayton (1970); A. W. Neilson, St. Louis (1970). **Associate Member**—Gilbert Ross, Jr., Columbia.

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Anesthesiology—Edward O. Kraft, Brentwood, Chairman (1968); W. W. Tillman, Jr., Springfield (1969); Karl K. Ness, St. Joseph (1969); S. Ross Melgaard, Kansas City (1970); Kenneth Keown, Columbia (1970). **Associate Members**—Harold J. Freiheit, St. Louis; Robert S. Higgins, Kansas City; George R. Weeks, Cape Girardeau; Robert B. Dodd, St. Louis; James S. Gordon, Jefferson City; James A. Wells, Kansas City.

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Aylward, Howard J., St. Louis
Azuma, Nobutaka, St. Louis
Azzouni, J. N., St. Louis

B

Babka, Joseph J., St. Louis
Bach, Lysle M., Hannibal
Bachmann, Paul L., Independence
Backer, Matthias H., Jr., St. Louis
Bacola, Eleni, Kansas City
Badger, Virginia M., St. Louis
Baer, Alvin J., Kansas City
Bagby, James W., Clayton
Bahn, Charles F., Cape Girardeau
Bailey, Alan H., Springfield
Bailey, Drennan, St. Louis
Bailey, Frank A., St. Louis
Bailey, William H., St. Louis
Baird, Keim L., St. Louis
Baker, A. Sherwood, Columbia
Baker, Donald L., Union
Baker, James M., Columbia
Baker, Josephine D., Moberly
Baker, Philip J., Kansas City
Baker, Warren C., Savannah
Baldwin, Paul, Kennett
Baldwin, Richard, Springfield
Baldwin, Theodore R., Lawson
Bales, Eugene L., Carrollton
Balhuizen, John, Kansas City
Ball, James E., San Gabriel, Calif. (Member Jackson County Medical Society)
Ballard, V. Bryce, Kansas City
Bandle, Donald F., St. Louis
Banet, Samuel R., St. Louis
Banton, M. Roman, St. Louis
Banton, William C., St. Louis
Barbour, Marvin R., Poplar Bluff
Barden, Frank W., Creve Coeur
Bardenheier, J. Phil, St. Louis
Bare, Chester I., Jr., Raytown
Bare, Edward F., Tarkio
Bareis, Robert J., Marshfield
Barelli, Pat A., Kansas City
Barger, O. B., Harrisonville
Barker, Edward T., St. Louis
Barloon, James H., Kansas City
Barnard, John L., Jr., Kansas City
Barnes, Robert H., Kansas City
Barnes, Seth S., Cape Girardeau
Barnett, Charles H., Bolivar
Barnett, Floyd A., Paris
Barnett, Gordon P., Kansas City
Barnett, Julian H., St. Louis
Barnett, Norman H., Joplin
Barnette, Eugene, St. Charles
Barone, Paul L., Nevada
Barrett, Scott R., St. Louis
Barrios, Francisco, St. Louis
Barrow, Jack, St. Louis
Barry, Gerald W., Kansas City
Barry, William B., Kansas City
Bartels, Leo G., St. Louis
Bartlett, Robert W., St. Louis
Bartlett, Willard, Jr., St. Louis
Bartnick, Mitchel L., St. Louis
Basantz, Fernando V., Kansas City
Bascom, Charles H., New York, N. Y. (Member Buchanan County Medical Society)
Baska, R. E., Shawnee Mission, Kan. (Member West Central Missouri Medical Society)
Bass, Billy J., Salem
Bass, Walter R., Kansas City
Bassett, Robert B., St. Louis
Bates, George C., Kansas City
Battersby, Richard S., Columbia
Bauer, Harold A., Lockwood
Bauer, John D., St. Louis
Bauer, Joseph A., St. Louis
Bauer, Maria, Granite City, Ill. (Member St. Louis Medical Society)
Bauer, Otto, Granite City, Ill. (Member St. Louis Medical Society)
Bauer, Robert A., St. Louis
Baum, Frank E., Kansas City
Bauman, Henry C., Maryville
Baumann, A. R., Steelville
Baumann, William B., San Francisco, Calif. (Member St. Louis Medical Society)
Baumgarten, Walter, Jr., St. Louis
Baumhardt, Edward E., Kansas City
Bawell, Malcolm B., St. Louis
Bay, Merrill R., Blue Springs
Beam, Sim F., St. Louis
Beard, Daniel D., St. Louis
Beare, J. Byron, St. Louis
Beare, Lucia V., St. Louis
Beasley, L. Kenneth, St. Louis
Beato, David L., St. Louis
Beatty, Nina D., Kansas City
Beck, Calvin E., Kansas City
Beck, Paul M., St. Joseph
Becke, William G., St. Louis
Beckemeyer, W. Albert, Sedalia
Becker, Bernard, St. Louis
Becker, Edward J., St. Louis
Becker, George H., St. Louis
Becker, Richard R., Kansas City
Becker, Rolfe A., Kansas City
Becker, Stanley C., St. Louis
Beckett, Theodore C., Boonville
Beckette, Edmund S., St. Louis
Beckman, Donald E., St. Louis
Beecher, Sheldon B., Poplar Bluff
Beene, Thomas K., Lebanon
Beheler, Edward M., St. Joseph
Behrens, Donald T., Richmond Heights
Behrens, Gerald L., St. Louis
Beidle, Raymond J., St. Louis
Beis, Louis D., St. Louis
Belden, Edgar A., Jefferson City
Belew, Joe E., St. Louis
Belinson, Louis, Jefferson City
Bell, Robert M., St. Louis
Bell, William F., Lee's Summit
Benage, Clarence M., St. Louis
Benjamin, Durand, St. Louis
Bennett, James D., Kansas City
Benoit, Hector Wright, Jr., Kansas City
Benson, John F., St. Louis
Benson, Leo J., Jr., Kennett
Benson, Scott C., St. Joseph
Berard, Louis N., St. Louis
Berenson, Sheldon E., Kansas City
Berg, Leonard, St. Louis
Berg, Ralph, St. Louis
Berger, Edward J., St. Louis
Bergman, Hugo F., St. Louis
Bergmann, Dwayne, St. Louis
Bergmann, John F., St. Louis
Bergmann, Martin, St. Louis
Bergmann, Victor H., Kansas City
Bergner, Grace E., St. Louis
Berland, Harry I., St. Louis

Berman, William, St. Louis
Bernard, J. W., Caruthersville
Berndsen, Gerard H., Rock Hill
Berney, Francis J., St. Joseph
Bernreiter, Michael, Kansas City
Bernstein, Aaron M., St. Louis
Bernstorff, Paul H., St. Louis
Berry, Guy N., Kansas City
Berry, John W., St. Louis
Berry, Maxwell G., Kansas City
Berry, Paul T., Troy
Bersche, Bertram L., St. Louis
Berwald, Irwin I., St. Louis
Bess, William E., Sedalia
Best, Robert, Higginsville
Bettonville, Paul J., Jr., St. Louis
Bickel, Vern T., Lamar.
Biddy, Ralph L., St. Louis
Biggs, Alfred D., Jr., Kansas City
Biggs, Fred J., Jr., Poplar Bluff
Biggs, Harry L., Kansas City
Bikales, Victor W., Kansas City
Bills, Marvin L., Kansas City
Bilsky, Nathan, St. Louis
Bindbeutel, Arthur H., St. Louis
Bindbeutel, Donald A., Webster Groves
Binder, Morton A., St. Louis
Bingham, Hal G., Columbia
Bircher, John L., St. Louis
Bird, H. Waldo, St. Louis
Birenbaum, Aaron, St. Louis
Birge, Clifford A., St. Louis
Birsner, Frank H., Carthage
Bishop, Marion D., Florissant
Bishop, Mary M., St. Louis
Bisno, Daniel, St. Louis
Black, Don A., Kansas City
Black, Eugene C., Kansas City
Black, Samuel P. W., Columbia
Blacklock, David E., King City
Blackman, Nathan, Kirkwood
Blackmore, Thomas A., Windsor
Blades, Ross D., Springfield
Blair, Vilray P., Jr., St. Louis
Blalock, Robert W., Marshall
Blalock, William N., Paducah, Ky.
(Member St. Louis Medical Society)
Blankenship, Dale M., Cape Girardeau
Blankenship, George W., Neosho
Blanton, J. C., Sikeston
Blim, Richard D., Kansas City
Block, Arnold S., St. Louis
Bloom, W. A., Fayette
Blount, Lee, Jr., St. Louis
Blunt, Charles P., Tulsa, Okla.
(Member St. Louis County Medical Society)
Bockelman, Clifford H., Brentwood
Boedeker, Roy V., St. Louis
Boemer, Lilburn C., St. Louis
Boger, James W., Sedalia
Bohne, Wm. R., St. Louis
Bohnsack, Ralph W., Brookfield
Bohrer, Harry C., St. Louis
Boldizar, Albert G., St. Louis
Boldt, Thomas H., St. Louis
Boles, Clifford R., Clayton
Boley, James O., Kansas City
Bolgar, Bertalan, Festus
Bolinske, Robert E., St. Louis
Bolton, Robert L., Milwaukee, Wisc.
(Member St. Louis Medical Society)
Bond, Leslie F., St. Louis
Bondurant, Bryce H., St. Louis
Bonebrake, M. D., Springfield
Bonfanti, Albert L., St. Louis
Bonney, Samuel C., Washington
Boone, Daniel S., Kansas City
Bordy, Marvin D., Kansas City
Borenstine, Joseph, Kansas City
Borowsky, Benjamin A., St. Louis
Bortnick, Arthur R., St. Louis
Bortnick, Eugene, Kansas City
Boswell, John R., St. Louis
Boteler, George M., Kansas City
Botwin, Arnold E., Kansas City
Boucher, Robert E., Avon, Mass.
(Member St. Louis Medical Society)
Boughnou, Harvey P., Kansas City
Bouhasin, John D., St. Louis
Bourke, Timothy S., Kansas City
Boutros, Amin, Kansas City
Boveri, Joseph C., St. Louis
Bowdern, Edward H., Richmond Heights
Bowen, Stephen F., Jr., St. Louis
Bowerman, Harold H., St. Louis
Bowersox, Warren A., Pacific
Bowles, G. Robert, St. Louis
Bowles, Richard P., Liberty
Bowles, William T., St. Louis
Bowman, Melvin C., Neosho
Bowser, John F., Kansas City
Boyce, John Milton, Mexico
Boyd, Arthur M., St. Louis
Boyd, George K., Kansas City
Boydston, Catherine, Odessa
Boydston, W. Wayne, Odessa
Boyer, Philip A., Jr., Kansas City
Bozzo, Raymond J., Washington
Braby, Howard H., Independence
Bradford, John F., Kansas City
Bradley, Frank R., St. Louis
Bradley, Richard V., Clayton
Bradley, William W., Centralia
Bradshaw, W. D., Clinton
Brady, Arthur M., Kansas City
Brady, Charles H., Sedalia
Brady, Harry R., Ft. Ord, Calif.
(Member St. Louis Medical Society)
Brady, Hugh S., Concordia
Brams, Jack B., Kansas City
Brand, Earl L., Webster Groves
Brangle, Robert W., St. Louis
Brasher, Ben H., Lexington
Brasher, Charles A., Mt. Vernon
Braufman, Harvey S., St. Louis
Braverman, Abe E., Kansas City
Braverman, Elliot M., Sedalia
Brazos, John C., Smithton
Bregant, Robert E., Jefferson City
Bremser, Harry L., St. Louis
Brennan, George A., St. Louis
Brennan, John A., Farmington
Brennan, Patricia A., St. Louis
Brennan, Raymond J., Chillicothe
Brennan, Robert A., St. Louis
Brennan, Robert V., St. Louis
Brenner, Paul A., Owensville
Brereton, Robert L., Kirkwood
Brewer, Lake, Ridgeway
Brewster, Charlotte M., Kansas City
Bricker, Eugene M., St. Louis
Bricker, Neal S., St. Louis
Brielmaier, Charles R., St. Louis
Brinker, Ray A., St. Louis
Briscoe, John R., Maplewood
Bristow, Robert B., St. Joseph
Broaddus, Loren, Springfield
Brock, Bernard, Windsor
Brockley, John T., Coeur d'Alene, Idaho
(Member St. Louis Medical Society)
Brodeur, Armand E., Kirkwood
Bronson, Shael S., St. Louis
Brooke, Clement E., Columbia
Brookes, Henry S., Jr., St. Louis
Brookes, Robert D., St. Louis
Brookreson, Alton D., Poplar Bluff
Brookreson, Alton F., Poplar Bluff
Brooks, John M., Springfield
Brother, George M., St. Louis
Broun, Goronwy O., St. Louis
Broun, Goronwy O., Jr., St. Louis
Brown, Adrian J., Kansas City
Brown, Alex L., Springfield
Brown, Daniel W., San Diego, Calif.
(Member St. Louis Medical Society)
Brown, E. Eugene, St. Louis
Brown, Elwyn S., Kansas City
Brown, Frederick B., Aurora
Brown, Irwin S., Kansas City
Brown, James B., St. Louis
Brown, James M., St. Louis
Brown, James T., Springfield
Brown, John J., Fulton
Brown, Katherine S., Fulton
Brown, Lyman D., Springfield
Brown, Robert S., Kansas City
Brown, Seymour, St. Louis
Brownell, William M., Kansas City
Brownsberger, Robert H., Appleton City
Broyles, Glen H., Kansas City
Broyles, Watkins A., Bethany
Bruce, Helen L., St. Louis
Bruce, James G., Jefferson City
Bruce, Leo A., Sikeston
Bruce, Paul C., Excelsior Springs
Brukardt, Diane, Columbia
Brumm, Lawrence W., Kansas City
Bruner, Claude R., Columbia
Bruner, Robert E., Kansas City
Bruns, Kenneth, University City
Brust, Carl H., Mission, Kan.
(Member Jackson County Medical Society)
Bryan, James H., Clayton
Bryan, William H., Jr., Kansas City
Bryan, William T. K., St. Louis
Bryant, Sydney L., St. Joseph
Bryant, T. J., Kansas City
Bryant, William O., Hayti
Buben, Robert W., Kirksville
Buckingham, William, Kansas City
Buckner, Robert C., Kansas City
Buckthorpe, Thelma C., Sikeston
Budd, John J., Jr., St. Louis
Budke, Harold A., Kansas City
Buehler, Carl T., Jr., Eldon
Buesseler, John A., Columbia
Bugg, Andrew F., Lordsburg, N. M.
(Member Mineral Area County Medical Society)
Bugg, George W., Nashville, Tenn.
(Member St. Louis Medical Society)
Buhler, Victor B., Kansas City
Buie, Bruce R., Kansas City
Bull, Ben M., Ironton
Bumgarner, James E., Columbia
Bumgarner, Roger W., Columbia
Bunting, Williston P., Kansas City
Burch, John E., Joplin
Burcham, Tom R., Jr., Farmington
Burford, Cyrus E., St. Louis
Burford, Edwin K., Jr., Cape Girardeau
Burford, Thomas H., St. Louis
Burk, E. K., Kansas City
Burke, Robert J., St. Louis
Burkey, Jordan W., Springfield
Burkhardt, Edward F., St. Louis
Burmeister, R. William, St. Louis
Burns, Beryl I., Columbia
Burns, Francis J., St. Louis
Burns, Francis R., Hannibal
Burns, Thomas W., Columbia
Burnside, Charles R., Kirkwood
Burst, Donald O., St. Louis
Burstein, Robert, St. Louis
Busch, Anthony K., St. Louis
Busiek, Erwin F., Springfield
Busiek, Paul J., Springfield
Busiek, Urban J., Springfield
Bussmann, Donald W., St. Louis
Butcher, Harvey R., Jr., St. Louis
Butcher, Robert W., Kansas City
Butler, E. F., St. Joseph
Butsch, Richard H., St. Louis
Butterworth, Nelson S., Kansas City
Butts, James D., Rolla
Byars, Louis T., St. Louis
Byers, Philip L., Kansas City
Byland, Benjamin F., Maryville
Byland, Samuel J., Wellsville
Bynum, William R., Columbia
Byrne, John E., St. Louis
Byrne, Paul A., St. Louis

C

Caciolo, Carlo, St. Louis
Cacioppo, Joseph E., St. Louis
Cada, Edward G., Warrensburg
Cadbury, Jane B., Chesterfield
Cadice, John B., St. Louis
Caffrey, Raymond J., Kansas City
Cain, Alvin R., Lamar
Cain, Charles F., Caruthersville
Caldwell, Fred, Poplar Bluff
Caldwell, Jacob D., Hayti
Caldwell, John K., Kansas City
Calkins, Delevan, St. Louis
Callahan, Donald E., Jennings
Callahan, Joseph D., St. Louis
Callaway, Guy D., Springfield
Callaway, Guy D., Jr., Springfield
Callihan, Charles F., West Plains
Callman, George, St. Joseph
Calodney, Martin M., St. Louis
Calovich, Emery R., Kansas City
Camel, H. Marvin, St. Louis
Camp, Richard V., Jr., Poplar Bluff
Campbell, A. J., Sedalia
Campbell, Cecil S., St. Louis
Campbell, Edward D., Cape Girardeau
Campbell, Frederick B., Kansas City
Campbell, James E., Macon
Campos, Francisco J., St. Louis
Canaan, Samuel A., Jr., St. Louis
Cancelada, Juan, Silex
Canlas, Emilio M., Poplar Bluff
Cannon, Edward M., St. Louis
Canty, Eugene J., St. Charles
Capetti, Alex P., Crane
Cappel, Powel B., St. Louis
Capps, Eugene C., Kansas City
Carleton, Charles E., Jr., Farmington
Carlin, Albert L., Stanberry
Carlin, M. Richard, St. Louis
Carlson, Arne E., St. Louis
Carlson, Hjalmar E., Kansas City
Carmichael, Francis A., Jr., Kansas City
Carmona, Gilberto V., University City
Carnell, B. M., Camdenton
Carnes, Victor M., Joplin
Carpenter, George T., St. Joseph
Carpenter, Wallace, Rockport
Carr, Archie D., St. Louis
Carr, G. Thomas, St. Louis
Carranza, Mauro J., St. Louis

Carrier, Edson C., Kansas Ctiy
Carrier, John A., St. Louis
Carrington, Howard W., Lebanon
Carroll, George A., St. Louis
Carroll, Grayson, St. Louis
Carroll, Percy J., Clayton
Carroll, Thomas W., Lamar
Carron, Joseph F., Arnold
Carron, Oscar A., Perryville
Carter, Edwin E., Clayton
Carter, Howard, Hamilton
Carter, James R., Neosho
Carter, John F., St. Louis
Caruso, Alfred A., Kansas City
Cary, John M., St. Louis
Casady, Gilbert N., Kansas City
Case, William F., Kansas City
Casebolt, Buford T., Kansas City
Casey, Edwin J., St. Louis
Cash, Charles R., Kennett
Cason, Elbert H., St. Louis
Cassel, Melvin A., St. Louis
Castelaw, Rush E., Kansas City
Castillo, Michael E., Kansas City
Catanzaro, Anthony F., St. Louis
Catanzaro, Francis J., St. Louis
Catanzaro, Marshall J., St. Louis
Catanzaro, Rudolph E., St. Louis
Cate, Thomas R., St. Louis
Cavanagh, Denis, St. Louis
Cavaness, Ernest W., Encinitas, Calif.
(Member Jackson County Medical Society)
Centner, Paul J., Kansas City
Chalkley, Judson I., Columbia
Chamberlain, Gilbert L., Boonville
Chambers, James Q., Jr., Kansas City
Chamness, James T., St. Louis
Chandler, Robert A., Kansas City
Chaplin, Hugh, Jr., St. Louis
Chapman, Charles L., Columbia
Chapman, James H., Kansas City
Chapman, Jean A., Cape Girardeau
Chapman, Jerry R., Steele
Chapman, Samuel B., Kansas City
Charles, Benjamin H., St. Louis
Charles, Cecil M., Clayton
Charnas, Raymond M., St. Louis
Chase, Ned B., Jr., Joplin
Chastain, Charles W., Farmington
Cheek, Charles W., Columbia
Cheng, Alfred K., San Antonio, Tex.
(Member Jackson County Medical Society)
Chernoff, Selbert G., Kansas City
Cherre, Anthony J., St. Louis
Cherre, Charles J., St. Louis
Chesney, George W., Joplin
Chiasson, E. Chaille, Columbia
Chieffi, Margaret, St. Louis
Childs, Richard M., Kansas City
Chiles, David R., Smithville
Chinsky, Murray, St. Louis
Christ, Martin H., St. Joseph
Christensen, Roger F., Louisiana
Christy, Raymond A., Springfield
Chute, W. Deward, Moberly
Ciampa, Thomas, St. Louis
Ciapciak, Stanley J., St. Louis
Clark, Chester L., Trenton
Clark, Clarence L., St. Louis
Clark, Irving H., Kansas City
Clark, Kendall A., Jefferson City
Clarke, Michael J., Springfield
Clary, William F., Springfield
Claseman, Wilma W., St. Louis
Clasen, Arthur C., Miami Beach, Fla.
(Member Jackson County Medical Society)
Clawson, James W., Springfield
Clayton, Edgar L., Springfield
Cleary, Frank, St. Louis
Cleveland, Horace F., Long Beach, Calif.
(Member St. Louis Medical Society)
Clever, Henry W., Jr., St. Charles
Cline, Harold H., Piedmont
Cline, Merle A., Kansas City
Clisham, John F., Hannibal
Clithero, William H., Duarte, Calif.
(Member St. Louis Medical Society)
Cloyd, Mason D., St. Louis
Coates, Thomas A., St. Louis
Cobb, James R., Kansas City
Coben, Lawrence A., St. Louis
Coburn, Donald F., Kansas City
Cochran, Donald Q., Columbia
Cochran, Jo R., Cape Girardeau
Cochran, Thomas E., Jr., Springfield
Cochrane, Joseph J., Kansas City
Cockerell, Sanford F., Independence
Coffee, Amos L., Willow Springs
Coffey, Ralph R., Kansas City
Coffin, Ernest L., Lakeworth, Fla.
(Member St. Louis Medical Society)
Coffin, Theodore A., Kansas City
Coffman, Esther E. L., Lakeworth, Fla.
(Member Ozarks Medical Society)
Cohen, Benjamin H., Clayton
Cohen, Frank, St. Ann
Cohen, Harry K., Kansas City
Cohen, Hillard K., Bridgeton
Cohen, Robert S., N. Y., N. Y.
(Member St. Louis Medical Society)
Cohle, Richard R., Carthage
Cohnberg, Rosellen E., Neosho
Cohrs, Clarence C., Moberly
Cokingtin, Leovigildo, Independence
Cokrhame, Jack, St. Louis
Colbert, Robert S., Sikeston
Coldwater, Kenneth B., St. Louis
Cole, William R., St. Louis
Coleman, William G., St. Louis
Colglazier, Mary C., Kansas City
Collantes, Jose L., Gower
Coller, Frederick B., Springfield
Collins, Gretchen D., Macon
Collins, John M., St. Louis
Collodi, George A., Brentwood
Colom, George A., Kansas City
Colwill, Jack M., Columbia
Comeau, Richard A., Dexter
Comens, Phillip, St. Louis
Comens, Ruth C., St. Louis
Comer, J. Russell, Kansas City
Comerci, George D., St. Louis
Commerford, John F., St. Charles
Compton, James R., La Habra, Calif.
(Member St. Louis County Medical Society)
Cone, Alfred J., Chesterfield
Connell, Evan S., Kansas City
Conrad, Adolph H., Jr., Clayton
Conrad, Joseph A., Chillicothe
Conrad, Marshall B., St. Louis
Conrad, Raymond C., Springfield
Cook, Galen B., Columbia
Cook, James R., Springfield
Cook, O. W., Caruthersville
Cook, Ralph L., St. Louis
Cook, Thomas B., Richmond
Cooper, Charles S., Kansas City
Cooper, Charles W., Jefferson City
Cooper, Claude W., Thayer
Cooper, Henry T., St. Louis
Cooper, John H., Kansas City
Cooper, Lawrence E., Ft. Myers, Fla.
(Member Pemiscot County Medical Society)
Cooper, Leo F., Kansas City
Cooper, Maurice E., Columbia
Cooper, R. Lee, Warrensburg
Cooper, Theodore, Albuquerque, N. M.
(Member St. Louis Medical Society)
Cooper, Thomas J., St. Louis
Cope, James C., Columbia
Cope, Joseph S., Lexington
Copher, Glover H., St. Louis
Copp, Ralph, Jr., St. Louis
Corday, Robert J., St. Louis
Cordonnier, Justin, St. Louis
Correnti, Nicholas A., St. Louis
Cortez, Willie S., Mt. Vernon
Cortner, Mary C., Kansas City
Costa, Dominic V., St. Louis
Costello, Cyril J., St. Louis
Costello, Joseph P., Jr., Brentwood
Costen, William S., St. Louis
Costrino, Joseph A., St. Louis
Cotlier, Edward, St. Louis
Cottey, J. H., St. Charles
Coughlin, Bertrand D., St. Louis
Courter, Larry P., Kansas City
Cowan, Robert D., Aurora
Cowdry, Edmund V., Jr., St. Louis
Cowherd, Joseph B., Kansas City
Cox, Kenneth E., Kansas City
Cox, Mary E., St. Louis
Cox, William A., Jefferson City
Cox, William L., Liberty
Coxe, William S., St. Louis
Cozart, Duane E., Chesterfield
Craig, Irwin T., Joplin
Craig, Owen W. D., St. Joseph
Craig, Richard O., St. Joseph
Crain, James W., Branson
Cramb, Arthur B., Lakeland, Fla.
(Member North Central Counties Medical Society)
Crawford, Archie L., Joplin
Crawford, Katherine J., University City
Crawford, Oral B., Springfield
Crawford, Robert M., Sullivan
Crayton, Billy G., Waverly
Creech, Joseph C., Troy
Crego, Clarence H., Jr., St. Louis
Cremer, Mabelle A., Kansas City
Cremer, William J., Fulton
Cresswell, George F., Potosi
Crews, Robert N., Fulton
Crider, Russell J., St. Charles
Criscione, James R., St. Louis
Crispell, Lawrence S., Joplin
Critchlow, Wm. C., Sikeston
Crocker, Albert M., Kansas City
Crockett, James E., Kansas City
Croom, Dorwyn W., Malden
Crosby, Alice S., Columbia
Cross, Albert D., Trenton
Crossman, Robert W., Webster Groves
Crotty, John P., Collinsville, Ill.
(Member St. Louis Medical Society)
Crouch, F. Richard, Farmington
Crow, Martin L., Kansas City
Crowe, John T., Cape Girardeau
Crowell, Hugh C., St. Louis
Crozier, Franklin A., Richmond
Cuddihee, Robert E., Jr., St. Louis
Culbertson, William F., Kansas City
Culley, Thomas S., Columbia
Cullum, Albert G. J., Middlesboro, Ky.
(Member St. Louis County Medical Society)
Cummings, James H., St. Louis
Cunningham, Darral D., Springfield
Cunningham, E. J., Jr., Rockville, Md.
(Member St. Louis Medical Society)
Curran, Desmond, Kansas City
Curts, Calvin J., Kansas City
Cutcliff, Daniel J., Kansas City
Cutler, Harold M., St. Louis
Cutler, Harry, St. Louis
Czebrinski, Edward W., St. Louis

D

Daake, John W., St. Louis
Dabbs, LeRoy, St. Louis
Dabbs, Wilbur D., Neosho
Dahms, Gustave, St. Louis
Daley, Frank R., Hamilton
Dalton, Arthur R., St. Louis
Dalton, Timothy T., Kansas City
Daman, George A., St. Louis
Dames, Richard J., St. Louis
Damron, Edward O., Elsberry
Damron, Oscar H., Warrensburg
Danforth, William H., St. Louis
Danis, Peter G., St. Louis
Danis, Richard K., St. Louis
Dankner, Arnold, Clayton
Dann, David S., Kansas City
Darnell, Thomas F. B., Columbia
Dash, Udaya N., St. Louis
Daughaday, William H., St. Louis
Daum, Harold F., Sedalia
Davault, George K., Richmond
Davidson, John D., St. Louis
Davidson, Morris, Clayton
Davie, Joseph, St. Louis
Davis, C. Braxton, Nevada
Davis, David, Columbia
Davis, David O., St. Louis
Davis, Donald R., Kansas City
Davis, Edgar W., St. Louis
Davis, Frank L., St. Louis
Davis, Herbert V., Kansas City
Davis, Irl R., St. Louis
Davis, Jack M., Kansas City
Davis, John J., Overland Park, Kan.
(Member Jackson County Medical Society)
Davis, Kenneth A., Kansas City
Davis, Landis Y., Canton
Davis, Leonard L., Jr., Mexico
Davis, Martin W., St. Louis
Davis, Richard E., Kansas City
Davis, Robert C., Kansas City
Davis, Wilbur L., Charleston
Day, Anthony B., Marshall
Day, John K., Bowling Green
Day, Maxwell, St. Joseph
Deakin, Rogers, St. Louis
Dean, Francis D., Fayette
Dean, Howard Y., Ft. Leonard Wood
Dean, Lee W., Jr., St. Louis
Decker, Albert I., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
DeGenova, Gerald H., Ste. Genevieve
DeHovitz, Bernard, St. Louis
Deitchman, Robert B., St. Louis
De Jesus, Alberto, St. Louis
de la Torre, John J., Sullivan
Deles, Vincente D., Crystal City
DeMaria, Peter F., Kansas City
Demko, William, St. Louis
DeMott, John D., Kansas City

DeMotte, John A., Kansas City
Denk, Alan F., St. Louis
Denney, Richard W., Mountain Grove
Dennie, Charles C., Kansas City
Denninghoff, James C., Columbia
Dennis, W. Paul, Flat River
Denny, Hubert M., Union
Dernoncourt, John E., Columbia
DeTar, Burleigh E., Joplin
DeTar, B. E., Jr., Dearborn, Mich.
(Member Jasper County Medical Society)
Dettmer, Robert F., Ironton
Deutch, Max, St. Louis
Devine, John B., St. Louis
Devine, Joyce E., St. Louis
Devine, Mark W., Jr., Kansas City
Devins, George S., Kansas City
Dewald, Paul A., St. Louis
DeWeese, Marion S., Columbia
Dewein, Edward G., St. Louis
Dexheimer, Frank R., Columbia
Deyton, John W., St. Louis
Dickerson, Omar B., New York
(Member St. Louis Medical Society)
Dickler, Donald J., St. Louis
Diehr, Maurice A., St. Louis
Diekroeger, Manuel L., Boonville
Diemer, Peter A., St. Louis
Dierker, H. D., Lebanon
Dietrich, Karl D., Columbia
Dietz, M. Wendell, Springfield
DiLeo, Senatro W., Jennings
Dill, Foster A., Maplewood
Dillard, Burl M., St. Louis
Dillard, Erin M., Springfield
Dills, Joseph N., Springfield
Dinelli, Frank E., Poplar Bluff
Diveley, Rexford L., Kansas City
Dixon, John R., Brookfield
Dixon, Vewiser L., Kansas City
Dlabal, Luke J., Independence
Dmytryk, Eugene T., St. Louis
Doane, William L., Grandview
Dodd, Robert B., St. Louis
Dodge, Mark, Kansas City
Dodge, Milton, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Dodson, Danny L., Monroe City
Doering, Robert W., Kansas City
Doggett, Sylvester, Sikeston
Doisy, Philip P., St. Louis
Doisy, Robert A., Glendale
Dolan, Daniel L., Springfield
Dolan, John T., Jr., St. Louis
Dolezal, Joseph B., Kansas City
Domke, Herbert R., St. Louis
Donaldson, Robert C., St. Louis
Donati, Robert M., Wheaton, Md.
(Member St. Louis Medical Society)
Donegan, William L., Columbia
Donley, Leo F., Jr., St. Louis
Donley, Robert R., Monett
Donnell, Harold E., De Soto
Donnell, Robert H., Crystal City
Donnell, Thomas A., DeSoto
Dorsch, Ervin H., Independence
Dorton, Robert K., St. Louis
Dowd, James F., Jr., St. Louis
Dowell, Donald M., Chillicothe
Dowell, J. Larry, Pattonsburg
Downey, James W., Kansas City
Doyle, Charles R., St. Louis
Doyle, Matthew J., Jefferson City
Drace, Charles C., Jr., St. Louis
Drake, Avery A., Rolla
Drake, Roy F., Kansas City
Drake, Truman G., St. Louis
Drake, William L., Jr., St. Louis
Draney, Thomas E., Kansas City
Draper, Bernard, Boonville
Drennan, James A., San Leandro, Calif
(Member St. Louis Medical Society)
Drescher, Emmett B., St. Louis
Drews, Robert C., St. Louis
Drey, Norman W., St. Louis
Dreyer, Carl J., Webster Groves
Dreyer, Philip V., Huntsville
Dreyer, William F., Houston
Drisko, Robert M., Kansas City
Drowns, Bruce V., Kansas City
Dubuque, Theodore J., Jr., St. Louis
Duden, Charles W., St. Louis
Duemler, John H., St. Louis
Duemler, Robert H., St. Louis
Duer, Mildred C., Kansas City
Duffy, Francis G., St. Louis
Duffy, Oliver F., Trenton
Dugas, Henry C., St. Louis
Duggan, John J., Jr., Kirkwood
Dulick, Michael, Brentwood
Duling, Gerald J., St. Charles
Dumonceaux, Leonard J., St. Louis
DuMont, Clement C., St. Joseph
DuMontier, R. J., O'Fallon
Dunaway, Howard A., Sikeston
Duncan, Robert D., Springfield
Duncan, Wm. H., Kansas City
Dunham, Robert H., N. Kansas City
Dunleavy, James D., Kansas City
Dunmire, George Q., Kennett
Dunn, Robert E., St. Louis
Dunshee, Robert E., Maryville
Durnell, Monaford D., Lee's Summit
Durr, Jon W., Columbia
Durst, Henry, Fulton
Dworkin, Saul, St. Louis
Dwyer, Frank X., Kansas City
Dwyer, Hugh L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Dwyer, Thomas L., Mexico
Dyer, Dallas J., St. Louis

E

Eades, Dee W., St. Louis
Eagleton, Mark D., Clayton
Eanet, Morton P., Kansas City
Earp, Ralph K., St. Louis
Eastwood, Robert A., Springfield
Ebel, Eugene H., St. Louis
Eber, Carl T., St., Louis
Eberle, John P., St. Louis
Eberle, Vincent L., St. Louis
Echterhoff, Harry R., St. Louis
Eck, Birkle, St. Louis
Ecker, Decider, Pacific
Eckert, Clarence T., St. Louis
Ecklund, Archibald M., San Diego, Calif.
(Member St. Louis Medical Society)
Ector, Henry J., Mexico
Edde, Clifford G., Kansas City
Edele, Eugene H., St. Louis
Edmonds, Devilla D., Leawood, Kan.
(Member Jackson County Medical Society)
Edwards, D. R., Sedalia
Edwards, Francis L., Monett
Edwards, Joseph C., St. Louis
Edwards, Theodore F., Kansas City
Edwards, Waldo B., Kirkwood
Efron, Joseph, St. Louis
Egan, Robert C., St. Louis
Egan, Thomas F., St. Louis
Eggers, George W. N., Jr., Columbia
Eggleston, Donald E., Macon
Eggleston, Thomas F., St. Louis
Eidelman, Jack R., St. Louis
Eigel, Edwin G., St. Louis
Eimer, Charles E., St. Louis
Eisemann, Gustave, Kansas City
Eisenmann, Benjamin P., New Haven
Eisenstein, Albert B., St. Louis
Ekern, H. Peter, Mexico
Eklund, Alfred W., Pleasant Hill
Elam, James O., Chicago, Ill.
(Member Jackson County Medical Society)
Eldenburg, Donald, Desloge
Elders, Frank A., Jr., Cuba
Eldridge, Charles J., Kansas City
Elias, David J., Independence
Eliasson, Sven G., St. Louis
Eliscu, Juliette, Joplin
Elkins, Ronald F., Springfield
Eller, C. Howe, Clayton
Ellersieck, Dorothy M., St. Louis
Ellett, William H., Appleton City
Elliott, James R., Pasadena, Calif.
(Member Jackson County Medical Society)
Elliott, Raymond G., Kansas City
Elliott, Wade E., Kansas City
Ellis, Burnett E., Gideon
Ellis, Calvin C., St. Louis
Ellis, Elmer F., Kansas City
Ellis, Francis J., Springfield
Ellis, Harry L., Springfield
Ellison, Leroy E., Maplewood
Ellsasser, James C., St. Louis
Ellsworth, Willard, Cainsville
Elrod, Dennis B., Cape Girardeau
Elser, Otto H., Independence
Elson, Julius, Ladue
Emerson, Reynolds L., St. Louis
Emmert, Fred, St. Louis
Engel, Lawrence P., Kansas City
Engelhardt, Robert C., Poplar Bluff
Engelking, David F., Kansas City
Engelmann, Calvin E., Kansas City
English, Milton T., Jr., Kirksville
English, Wallace D., Cardwell
Engman, Martin F., Jr., St. Louis
Enloe, Lawrence D., Jefferson City
Epp, George J., St. Louis
Epple, Kathryn C., Mexico
Epple, Lawrence K., Mexico
Ernst, Edwin C., St. Louis
Ernst, Edwin C., Jr., St. Louis
Ernst, Joseph G., St. Louis
Ernst, Richard E., St. Louis
Ernst, Roland P., St. Louis
Eshelman, Albert D., Independence
Eskeles, Irwin H., Florissant
Esslinger, Arthur T. J., St. Louis
Estes, Albert M., Cape Girardeau
Estes, Jack M., Ferguson
Esther, John R., Joplin
Etienne, Robert B., St. Louis
Eto, Jackson, St. Louis
Eubank, David F., Kansas City
Eubank, Dillard M., Raytown
Eubank, William R., Kansas City
Eubank, William Y., Kansas City
Evans, Ezra L., Jr., Springfield
Evans, Harry T., Branson
Evans, Lawrence L., Kansas City
Eversoll, Norton J., Hollywood, Fla.
(Member St. Louis County Medical Society)
Exon, C. Stuart, Jefferson City
Eyermann, Charles H., St. Louis
Eyermann, Edward L., Jr., St. Louis
Eyermann, H. Walter, Warrenton

F

Fair, William L., Chillicothe
Fairchild, James F., Perryville
Fairshter, Alex E., St. Louis
Fakhoury, Donald A., Kansas City
Falk, O. P. J., St. Louis
Fallet, Charles E., DeSoto
Fallon, Richard H., St. Louis
Farley, Claude C., Kansas City
Farley, Wm. M., St. Louis
Farmer, Norma D., Farmington
Farney, Jacob P., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Farnham, Milo M., Independence
Farnsworth, Jesse J., Kansas City
Farrar, Charles B., Cape Girardeau
Farrell, Robert J., St. Louis
Farrell, S. L., Sullivan
Farris, Larry E., St. Louis
Farthing, Fred R., Springfield
Farthing, Gene W., Springfield
Feierabend, Frank L., Kansas City
Feind, Earl E., Rolla
Feinstein, Leon A., St., Louis
Feist, George V., Kansas City
Feldaker, Robert M., St. Louis
Felder, James P., St. Charles
Feldman, David, St. Louis
Felix, Robert H., St. Louis
Feller, Harold H., St. Louis
Fellhauer, Carl M., St. Louis
Feltz, Lawrence W., Perryville
Ferguson, Donald S., Kansas City
Ferguson, James T., Kansas City
Ferguson, John L., Springfield
Ferguson, John P., Jr., Springfield
Ferguson, L. H., Jr., Joplin
Ferguson, Luther J., St. Joseph
Ferguson, Ralph L., Joplin
Ferguson, Robert M., Webb City
Ferguson, Thomas B., St. Louis
Ferguson, Wilson J., Sikeston
Ferneau, James E., Columbia
Ferrara, John P., St. Louis
Ferrell, Thomas E., Jr., Springfield
Ferris, Carl R., Kansas City
Ferro, Anthony L., St. Louis
Ferry, Richard J., St. Louis
Finger, Donald H., St. Louis
Fingerhood, Marvin G., St. Louis
Fingerman, Louis H., St. Louis
Fingert, Hyman H., St. Louis
Fink, LeRoy L., St. Louis
Finkel, Barney W., St. Louis
Finkle, Robert H., Independence
Finley, Freeman L., St. Louis
Finn, Murray E., St. Louis
Finnegan, Joseph V., St. Louis
Finney, William O., Chaffee
Fischer, Edward H., N. Kansas City
Fischer, Erich, St. Louis
Fischer, Theodore, Altenburg
Fischer, Thomas J., Hannibal
Fish, Virgil O., St. Louis
Fisher, Joseph L., St. Joseph
Fisher, Stanley D., Sedalia
Fitch, C. H. Max, Springfield
FitzGerald, Leo P., University City
Fitzgerald, Robert H., Independence
Fitzgerald, William T., St. Louis

Flance, Israel J., St. Louis
Flanders, Virgil E., Kansas City
Flanigan, George D., Jr., St. Louis
Flatley, John A., Kansas City
Flavan, David B., St. Louis
Fleishman, Alfred, University City
Fleming, J. Will, Moberly
Fleming, Paul D., Waterloo, Ill.
(Member St. Louis County Medical Society)
Fleming, Robert J., St. Charles
Fleming, Royall B., Kansas City
Fleming, Thomas S., Moberly
Fletes, James W., St. Louis
Florian, Albert J., Tucson, Ariz.
(Member Jackson County Medical Society)
Flotte, Bernard H., St. Louis
Flotte, Sylvester A., Jennings
Flynn, Edward P., St. Louis
Flynn, James M., Kansas City
Flynn, John T., St. Louis
Flynn, Joseph E., St. Louis
Flynn, Thomas T., St. Louis
Focht, Ralph H., Strafford
Fogerson, Virginia L., Springfield
Fogg, Gary R., St. Louis
Folck, William P., Kansas City
Folkner, A. L., Warrensburg
Ford, Lee T., Jr., St. Louis
Ford, William, Farmington
Foreman, Phillip B., Hannibal
Forgrave, John R., St. Joseph
Forgrave, Leon P., St. Joseph
Forman, George W., St. Joseph
Forman, Louis H., Kansas City
Forsen, James A., St. Louis
Forsman, Waldo W., Jr., St. Louis
Forster, Armand C., St. Louis
Forsyth, B. Todd, St. Louis
Forsythe, Robert W., Kansas City
Forti, John J., St. Louis
Foster, Jack L., Desloge
Fotopoulos, Chris K., Kansas City
Fouts, Dallas B., Sr., Independence
Fowler, Fred D., Kansas City
Fowler, I. Charles, N. Kansas City
Fowler, James W., Kansas City
Fowler, Marvin L., West Plains
Fox, Leon J., St. Louis
Fox, Robert E., St. Louis
Fozzard, Harry A., St. Louis
Frame, Homer G., Cabool
Francis, William C., Springfield
Francka, W. Frank, Hannibal
Frank, Alvin R., St. Louis
Franklin, Curtis U., Kansas City
Franklin, Harold A., St. Louis
Franklin, Max S., St. Louis
Fraser, Richard A., Kansas City
Frawley, Thomas F., St. Louis
Frazier, Robert L., Charleston
Frech, Robert S., St. Louis
Fredeen, Robert C., Kansas City
Frederick, Raymond O., St. Louis
Freedman, Aaron D., Kansas City
Freedman, Harold, St. Louis
Freedman, Ruth S., St. Louis
Freeman, David M., St. Louis
Freeman, Spencer L., Kirksville
Freiheit, Harold J., St. Louis
Freiman, S. Michael, St. Louis
Freimuth, L. E., St. Louis
Frein, Donald E., Leeton
Frerking, Herbert W., St. Louis
Freund, Samuel J., St. Louis
Frick, John P., Kansas City
Friedman, Bernard, St. Louis
Friedman, Ira J., St. Louis
Friedman, Morris L., Kansas City
Friedman, Paul L., St. Louis
Friedman, Robert H., St. Louis
Friedrich, Ernst R., St. Louis
Fries, Armand D., St. Louis
Fries, John W., St. Louis
Friskel, Arthur K., St. Louis
Fritsch, Andrew J., Joplin
Fritzlen, Thomas J., Kansas City
Froelich, Edwin J., Lebanon
Froelich, R. W., Lebanon
Froelich, Robert E., Columbia
Frumson, Guy H., St. Louis
Fryer, Minot P., St. Louis
Fuchs, George J., Barnett
Fuchs, George J., Jr., Columbia
Fuhrman, Donald L., Kansas City
Fujita, Milton T., St. Louis
Fulkerson, Wilbur E., Higginsville
Fulks, Richard B., California
Fullgrabe, Emil A., Jefferson City
Fulton, Albert E., Kansas City
Funsch, Robert E., St. Louis
Furla, Gus J., St. Louis
Furlow, Leonard T., St. Louis
Fury, Tex E., Kansas City
Fuson, Levi H., St. Joseph
Fuson, William A., Trenton

G

Gaffney, Caldwell J., St. Louis
Gafney, George T., St. Louis
Gagliardo, Joseph, St. Louis
Gaines, Quentin M., Kirkwood
Gainey, Harold L., Kansas City
Galbol, Harley, Excelsior Springs
Galbreath, Ashford M., Kansas City
Gale, Arthur H., Overland
Gale, Joseph F., Chillicothe
Gale, Philip R., St. Louis
Galeota, William R., Columbia
Gall, Ira, St. Louis
Gallagher, Lionel M., California
Gallagher, Neil I., St. Louis
Gandlmayr, Jack M., St. Louis
Ganley, William C., Kansas City
Gansloser, Wilbert M., Clayton
Gantner, George E., Jr., St. Louis
Gantt, Ernest S., Jr., Mexico
Gantz, John A., Affton
Garb, Solomon, Columbia
Garcia, Charles L., Mexico
Gard, Raymond F., Independence
Gardner, Joseph W., Reeds Spring
Garfinkel, Bernard T., St. Louis
Garner, G. Josephine, Kansas City
Garner, Lynn M., Jefferson City
Garrett, Glen H., Columbia
Garrison, Roy F., Kansas City
Garrison, T. W., Camdenton
Gary, George, Marceline
Gaskins, Charles W., Ironton
Gaskins, John H., Kansas City
Gass, Herbert H., St. Louis
Gaston, Lamont W., St. Louis
Gauer, Robert J., Kansas City
Gaunt, Frank P., Webster Groves
Gaunt, William D., Columbia
Gay, Andrew J., St. Louis
Gay, Elizabeth K., Florissant
Gay, George R., Chicago, Ill.
(Member Greene County Medical Society)
Gearhart, Merriam, Bethany
Gearhart, Wilbur H., St. Louis
Gedney, William B., Valley Park
Geha, Braham J., Kansas City
Geiger, William A., Jr., Kansas City
Geise, August W., Jr., St. Louis
Geisler, Gerald F., Dallas, Texas
(Member St. Louis Medical Society)
Gempel, Paul A., Kansas City
Gentry, Enoch N., Jr., Kansas City
Gentry, Marvin C., Ava
Gentry, Merritt L., Jefferson City
Gentsch, Kenneth W., St. Louis
German, Walter A., Jr., Springfield
Gernstetter, Sangwill L., Poplar Bluff
Gerst, Aloysius C., St. Louis
Gibson, David M., Kansas City
Gibson, Helen F., St. Louis
Gibstine, Marvin H., St. Ann
Giddings, Frank C., Springfield
Giem, Ross N., Sullivan
Gieselman, Ralph V., St. Louis
Giesler, Donald H., Osceola
Gildea, Edwin F., St. Louis
Gildea, Margaret C. L., St. Louis
Gilden, Jerome J., St. Louis
Gilfillan, Earl E., Memphis
Gilkey, Harry M., Kansas City
Gillen, Billy A., Kansas City
Gillespie, Roy, Branson
Gillespie, William J., St. Louis
Gilliland, Charles E., Cameron
Gilpin, Doris C., St. Louis
Ginardi, Donald E., Kansas City
Ginsberg, Norman A., Kansas City
Gish, Rutledge, Fulton
Gist, William W., Kansas City
Gitt, Joseph J., St Louis
Gladney, John H., St. Louis
Glascock, Donald W., Iowa City, Iowa
(Member Marion-Ralls-Shelby County Medical Society)
Glass, Robert L., Carlsbad, Calif.
(Member Pettis County Medical Society)
Glass, William J., Jr., Monett
Glassberg, Bertrand Y., St. Louis
Glasscock, Ernest L., Kansas City
Gleason, David C., St. Louis
Glenn, Elmer E., Springfield
Glenn, Robert R., Springfield
Glennon, William P., St. Louis
Glick, Harry N., St. Louis
Glover, Kenneth, Mt. Vernon
Gnade, Albert J., St. Louis
Goebel, Joan M., St. Louis
Goell, Robert S., St. Louis
Goldberg, Isadore E., Braymer
Goldenberg, Sidney, St. Louis
Goldenson, Max J., St. Louis
Goldfarb, Alvin, St. Louis
Goldkamp, John D., St. Charles
Goldman, Alfred, St. Louis
Goldman, Arnold M., St. Louis
Goldman, Hyman J., St. Louis
Goldman, Melvin L., St., Louis
Goldman, Stanley L., Kansas City
Goldner, John C., Rochester, Minn.
(Member Boone County Medical Society)
Goldsborough, John B., St. Joseph
Goldsich, Edward, Kansas City
Goldstein, Bernard, St. Louis
Goldstein, Marcy A., St. Louis
Goldstein, Marvin F., San Francisco, Calif.
(Member Jackson County Medical Society)
Goldstein, Phillip J., St. Louis
Gollub, Samuel W., St. Louis
Gomez, Cesar A., Jr., St. Louis
Gonser, Karl B., Sedalia
Gonzalez, M. Garza, Warrensburg
Goodman, J. N., Hardy, Arkansas
(Member St. Louis County Medical Society)
Goodman, LeRoy, Kansas City
Goodman, Nathaniel, St. Louis
Goodrich, Harold A., Webster Groves
Goodson, Wm. H., Jr., Kansas City
Goolsbee, Robert L., Kansas City
Gordon, James S., Jefferson City
Gordon, Morris P., Ft. Bragg, N. C.
(Member Jackson County Medical Society)
Gore, Glenn L., St. Charles
Gorelick, David F., Springfield
Gorla, Wayne O., St. Louis
Gorrell, Ned B., Grandview
Gose, Don F., Springfield
Gottsch, Joseph C., Kansas City
Grabau, Gene H., St. Louis
Grable, James D., Portageville
Grabske, Charles F., Independence
Grabske, Charles F., Jr., Independence
Graeser, Richard G., St. Louis
Graff, Ralph J., St. Louis
Graham, James W., Kansas City
Graham, Patrick G., Kansas City
Graham, Wallace H., Kansas City
Graneto, Joseph A., St. Louis
Grant, Albert J., Hannibal
Grant, Claude S., St. Joseph
Grant, John M., St. Louis
Grant, Neville, St. Louis
Grant, Samuel B., St. Louis
Grauerholz, James W., Kansas City
Graul, Elmer G., St. Louis
Graul, Walter P., St. Louis
Graves, Arthur J., Mt. Vernon
Graves, F. Burton, Pittsburg, Kan.
(Member Jasper County Medical Society)
Gray, Walter C., St. Louis
Greaney, John F., St. Louis
Grebcl, Clement B., St. Louis
Green, D. M., St. Louis
Green, J. Richard, Independence
Green, Manuel E., St. Louis
Green, Stanley L., Independence
Green, William L., St. Louis
Green, William R., San Francisco, Calif.
(Member St. Louis Medical Society)
Greenberg, Charles, Los Angeles, Calif.
(Member Buchanan County Medical Society)
Greene, Harry L., Hannibal
Greene, W. Wallace, Kansas City
Greenman, Marshall B., Clayton
Gregory, Ralph W., Kansas City
Gresick, Robert J., St. Louis
Griege, Charles W., Florissant
Griffin, Evelyn, Buffalo
Griffin, Olin A., Jr., Buffalo
Griffin, William T., Columbia
Griffith, John A., Jr., Kansas City
Griffith, John K., Arnold
Griggs, James Y., St. Louis
Grim, Edward M., Kirksville
Grimes, Manning E., St. Joseph
Grindon, Joseph B., St. Louis
Groce, George, Fulton
Gronau, Axel R., St. Louis
Grossman, Marvin, Fredericktown
Grove, Gulp W., Knobnoster
Growdon, John A., Kansas City

Grubb, Paul H., Joplin
Grueb, Paul M., St. Louis
Gruenfeld, Gerhard E., St. Louis
Grunberg, Emile, Columbia
Grundmann, William H., St. Louis
Guastello, Mario J., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Gubin, Alan S., Caruthersville
Guccione, Joseph B., St. Louis
Guhleman, Henry V., Jr., Jefferson City
Guldner, Edmond, Lamar
Gulick, Charles R., St. Louis
Gullett, Charles C., Kansas City
Gum, William R., St. Louis
Gummels, Belmont B., St. Louis
Gundle, Sigmund, Kansas City
Gunn, Jack, Versailles
Gunn, Richard W., Kansas City
Gunn, Walter T., St. Louis
Gunter, Joe S., St. Joseph
Gurnee, Landon H., Jefferson City
Guze, Samuel B., St. Louis
Gzell, Ronald, St. Louis

H

Habib, Henry N., Kansas City
Hackett, Paul R., St. Louis
Hackmeyer, Rubin, St. Louis
Haddock, James N., Webster Groves
Haffner, Heinz, St. Louis
Hagan, Daniel J., St. Louis
Hagar, David L., Kansas City
Hagebusch, Omer E., St. Louis
Hagemann, Paul O., St. Louis
Haggen, Margaret E., Kansas City
Hahn, Andrew L., Omaha, Neb.
(Member Greene County Medical Society)
Haight, John M., Kansas City
Haith, Edward E., Kansas City
Haith, Walter F., Kansas City
Hall, David G., Columbia
Hall, David W., Springfield
Hall, Durward G., Springfield
Hall, Eugene W., Ferguson
Hall, Frank W., Cape Girardeau
Hall, James W., Kansas City
Hall, Lee A., Clayton
Hall, Marvin F., Joplin
Hall, Preston C., St. Louis
Hall, Ralph R., Kansas City
Hall, Robert A., St. Louis
Hall, Thomas B., Kansas City
Hall, William K., St. Louis
Halloran, Mark J., St. Louis
Halperin, Phillip H., Kansas City
Halpern, Lawrence K., St. Louis
Hamel, Herbert A., Kansas City
Hamill, Robert W., Kansas City
Hamilton, Caldwell K., Creve Coeur
Hamilton, Eugene G., Clayton
Hamilton, Eugene H., Joplin
Hamilton, William P., Aurora
Hamlin, Wyeth, Hannibal
Hammes, Roman E., St. Charles
Hammler, Christiana V., St. James
Hammond, David T., St. Louis
Hammond, John J., St. Louis
Hampton, Henry E., St. Louis
Hampton, Oscar P., Jr., St. Louis
Hampton, Stanley F., St. Louis
Hanan, Ernest B., Springfield
Handler, Eric, St. Joseph
Handler, Fred P., Jefferson City
Hanes, Lee D., Kansas City
Hanes, Robert L., Kansas City
Hankin, Norman M., St. Louis
Hanlon, C. Rollins, St. Louis
Hanlon, Russell C., St. Charles
Hanna, Fikri M., Columbia
Hanna, Richard E., St. Louis
Hannas, Raymond R., Kansas City
Hansbrough, Eugene T., Poplar Bluff
Hansel, French K., St. Louis
Hansen, Arthur L., Butler
Hanser, S. Albert, St. Louis
Hanser, Theodore H., St. Louis
Hanss, Armand W., Springfield
Hardacre, Ruth A., Kansas City
Hardin, William B., Jr., St. Louis
Hardwicke, Henry M., Ashland
Hardy, Guerdan, Clayton
Hardy, Henry M., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Hardy, John W., Kansas City
Hardy, Joseph A., Jr., St. Louis
Hardy, Patrick J., Florissant
Hardy, Samuel W., St. Louis
Hardy, Stanton L., Desloge
Harell, Alex, St. Louis
Harford, Carl G., St. Louis
Harkins, William B., St. Louis
Harkness, Harry, Warrensburg
Harland, Robert E., Ironton
Harless, Morris S., Kansas City
Harlow, Lloyd M., Kansas City
Harmon, Ben C., Springfield
Harms, Florian L., Salisbury
Harned, Bert W., Kansas City
Harner, Casper G., St. Joseph
Harper, Fleming B., St. Louis
Harrell, Henry J., Summerfield, Fla.
(Member Dallas-Hickory-Polk County Medical Society)
Harrin, William R., Kansas City
Harris, A. Basil, St. Louis
Harris, Boyd L., San Diego, Calif.
(Member Jackson County Medical Society)
Harris, Charles W., St. Louis
Harris, Hugh S., Jr., Columbia
Harris, Robert J., Columbia
Harris, Solon P., St. Louis
Harrison, Lee B., St. Louis
Hart, L. Wayne, Kansas City
Hart, Martin M., Salem
Harting, Hugh R., St. Louis
Hartman, Paul T., St. Louis
Hartnett, Leo J., St. Louis
Hartstein, Jack, University City
Hartwig, Frederick H., Kansas City
Hartwig, John A., St. Louis
Hartwig, Raymond W., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Harvey, Harold D., Springfield
Harwell, J. Larry, St. Louis
Harwell, J. Lester, Winston-Salem, N. C.
(Member Butler County Medical Society)
Hasek, James A., Mountain Grove
Hasenmueller, James J., St. Louis
Hash, Helen E., Kansas City
Hashinger, Edward H., La Jolla, Calif.
(Member Jackson County Medical Society)
Hasselblad, Oliver W., New York, New York
(Member North Central Medical Society)
Hasson, Robert, Moberly
Hata, Daikichi, Boonville
Hatfalvi, Bela I., St. Louis
Hauptmann, William L., St. Louis
Hausheer, Herman J., Independence
Haw, Marvin T., Jr., Columbia
Hawk, Bray O., St. Louis
Hawker, William D., St. Louis
Hawkins, George L., Jr., St. Louis
Hawkins, Lee W., Chesterfield
Hayden, Loyola F., St. Louis
Hayek, Wesley E., St. Louis
Hayes, Lawrence L., Kansas City
Hayes, Paul W., St. Joseph
Haynes, James W., St. Louis
Haynes, Pugh, Jr., St. Louis
Haynes, Robert C., Marshall
Haynes, Solon E., Kansas City
Haynie, William W., Butler
Hazen, Robert M., Kansas City
H'Doubler, Charles E., Springfield
H'Doubler, Francis T., Jr., Springfield
H'Doubler, Peter B., Springfield
Headrick, John A., St. Louis
Hecker, Joseph E., Poplar Bluff
Hedges, Richard C., Excelsior Springs
Heeb, Max A., Sikeston
Heideman, Milo L., St. Louis
Heidenreich, Harry L., St. Louis
Heifetz, Carl J., St. Louis
Heilman, Edward J., Kansas City
Hein, Paul A., Jr., St. Louis
Helbing, Edward J., Alameda, N. M.
(Member St. Louis County Medical Society)
Hellerstein, Stanley, Kansas City
Hellweg, Charles E., Mt. Vernon
Hellweg, Raymond W., St. Louis
Helm, James O., New Florence
Helman, Richard G., Kansas City
Henderlite, John W., St. Louis
Hendin, Aaron, Olivette
Hendren, Glenn W., Liberty
Hendren, Thomas H., Kearney
Hengen, Henry E., Bridgeton
Henke, Charles F., St. Louis
Hennelly, John J., St. Louis
Henry, Clarke Latta, Kansas City
Henschel, Eugene V., St. Louis
Herbert, Charles T., Cape Girardeau
Herman, Allen I., St. Joseph
Herman, Morris, St. Louis
Hernandez, Salvadore, St. Louis
Herrman, George V., Kansas City
Hershey, Falls B., Kenilworth, Ill.
(Member St. Louis County Medical Society)
Hersperger, Webb S., St. Louis
Hertel, Ronald C., St. Louis
Herzog, Godofredo M., St. Louis
Hetlage, Louis P., Troy
Heusler, Anton F., St. Louis
Heutel, Lee B., Ballwin
Heyer, Oscar C., St. Louis
Hibbard, Blaine Z., Kansas City
Hickerson, William H., Independence
Hickey, Glenn M., St. Louis
Hickey, James L., St. Louis
Hickey, Robert F., St. Louis
Hicks, Robert S., St. Louis
Higgins, John W., St. Louis
Higgins, Philip C., St. Louis
Higgins, Robert S., Kansas City
Hilbert, Paul H., St. Louis
Hildreth, H. Rommel, St. Louis
Hill, Jack H., Kansas City
Hill, James E., Fulton
Hill, XaCadene A., St. Louis
Hilliard, Alphonso W., St. Louis
Hilton, Paul E., Kirksville
Hinds, R. David, Hannibal
Hink, Frederick W., Independence
Hirsch, Joe E., Kansas City
Hite, Dennis E., Lebanon
Hoadley, William D., Kansas City
Hoard, Joseph W., Webster Groves
Hobbs, John E., St. Louis
Hoctor, Emmett F., Farmington
Hodge, Robert H., N. Kansas City
Hodgson, Frank H., Kansas City
Hoelscher, Harold F., Warrenton
Hoeper, Samuel D., Grandview
Hoffman, Jacob S., Kansas City
Hoffmann, Augustin D., St. Louis
Hoffmann, R. Lee, Kansas City
Hoffmann, Ronald E., St. Louis
Hofstatter, Leopold, St. Louis
Hofstatter, Lilli, St. Louis
Hogan, Daniel F., Manhattan, Kan.
(Member Jackson County Medical Society)
Hogan, John R., St. Louis
Hogan, Patrick C., St. Louis
Hogancamp, Charles E., St. Louis
Hogancamp, Glenn E., Ballwin
Hogeboom, George W., Delray Beach, Fla.
(Member Greene County Medical Society)
Hogue, Frank S., Kansas City
Hoja, W. Alexander, Poplar Bluff
Holbrook, Charles K., St. Louis
Holcomb, John K., Cape Girardeau
Holemon, R. Eugene, St. Louis
Holland, Robert D., Springfield
Holley, Donald B., Camdenton
Hollinger, Lloyd A., Kansas City
Hollingsworth, Ray S., Clinton
Hollis, Richard W., Springfield
Hollo, Vencel W., St. Louis
Holloway, Robert B., St. Louis
Hollweg, Kenneth C., Kansas City
Holmes, Daniel E., Springfield
Holmes, David R., Springfield
Holscher, Edward C., St. Louis
Holt, Earl P., Jr., St. Louis
Holt, Waldo S., Kansas City
Holt, William E., St. Louis
Holton, Edward B., Independence
Holtz, Alan S., St. Louis
Holtz, Sumner, St. Louis
Holtzman, Samuel, Joplin
Hook, Waller G., Kansas City
Hoover, Bernard L., St. Louis
Hoover, H. Lee, Jr., Springfield
Hope, James L., Lebanon
Hopkins, Florian G., Gideon
Hopkins, James P., Kansas City
Hopkins, Thomas J., Sedalia
Hopkins, T. Spencer, Sedalia
Hornback, Edward R., Joplin
Horner, Glennon A., Marceline
Horner, John L., St. Louis
Hornstra, Robijn K., Kansas City
Horst, Otto C., Springfield
Horton, James D., Springfield
Horwitz, Irwin B., St. Louis
Hosto, Leland E., St. Louis
Houck, Russell M., Kecoughtan, Va.
(Member Clay County Medical Society)
Houston, Vincent T., St. Louis
Howden, Thomas L., St. Joseph
Howe, Albert L., St. Louis
Howe, Louis F., St. Louis
Howell, Billy D., Brookfield

Hoxworth, Gerald M., Cape Girardeau
Hubbell, Ira G., Columbia
Huber, Erwin T., St. Louis
Huber, K. Herbert, Richmond
Huber, Lasley E., Moberly
Huck, Frank F., Fenton
Huck, Richard F., St. Louis
Huckstep, Robert A., Farmington
Hudgens, Richard W., St. Louis
Huggins, Albert M., St. Louis
Hughes, Judson M., Columbia
Hughes, Robert G., St. Louis
Hughes, Shelby B., Clinton
Hulbert, Bernard, St. Louis
Hulstra, Johannes F. W., Springfield
Hummel, Anton J., St. Louis
Hummel, William C., St. Louis
Humphrey, James, Mound City
Humphreys, Edward T., Boonville
Hungate, Carroll P., Kansas City
Hunleth, Frank E., St. Louis
Hunt, Claude J., Kansas City
Hunt, John L., Campbell
Hunt, John W., Jr., Farmington
Hunt, Thomas R., Kansas City
Hunt, William J., St. Joseph
Hunter, Martin P., Kansas City
Hunzicker, Warren J., Kansas City
Hurd, James R., St. Charles
Hurst, Ben B., Cameron
Hurst, Wilfred W., Joplin
Hurwitt, Frank, Kansas City
Husted, George W., Parma
Hutchinson, James H., Jr., St. Louis
Hutchinson, William B., St. Louis
Hutto, A. Herman, St. Louis
Hyde, Lawrence L., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Hyman, Anna, St. Louis

I

Ibaviosa, Alfred C., Crystal City
Ide, Carl H., Columbia
Ide, Lucien W., St. Joseph
Imes, Elvin D., Maryville
Ingham, Walton C., Kansas City
Inkley, John J., St. Louis
Irick, Carl C., Naples, Fla.
(Member St. Louis County Medical Society)
Irvine, John W., Kansas City
Irvin, William M., St. Louis
Irwig, Fred, Kansas City
Isbell, Charles H., Carthage
Isom, Waldo B., Knox City
Ittner, George W., Jr., St. Louis
Ivy, Henry B., Springfield
Izmirlian, Grant, St. Louis

J

Jackson, Edward K., Clarksville
Jackson, Haywood R., Kansas City
Jackson, Robert L., Columbia
Jackson, Vernon B., Fulton
Jackson, William R., Kansas City
Jackson, William R., Maryville
Jacob, Karl A., Jr., St. Louis
Jacob, Walter P., Kansas City
Jacobs, Charles C., St. Louis
Jacobs, Frederick A., St. Louis
Jacobs, Morton, Kansas City
Jacobs, Walter H., Kansas City
Jacobsohn, Warren Z., Augusta, Ga.
(Member St. Louis Medical Society)
Jaeger, Joseph N., Jackson
James, Otis E., Jr., Kansas City
Jameson, James E., Springfield
Jamison, Rex L., St. Louis
Janney, James G., Jr., St. Louis
Jansen, Robert, Kansas City
Jarvis, James A., Kansas City
Jaudon, Joseph C., Clayton
Jean, J. Ted, St. Louis
Jeans, Virgil, Joplin
Jenab, Morteza, Kansas City
Jennett, James H., Kansas City
Jensen, Joshua E., St. Louis
Jick, Sidney, St. Louis
Jimenez, Jose, St. Joseph
Joffe, Irwin, Paragould, Ark.
(Member Dunkin County Medical Society)
Johnson, C. Laurence, Kansas City
Johnson, Charles S., Warrensburg
Johnson, Earl W., Cape Girardeau
Johnson, George A., Springfield
Johnson, George L., Ft. Benning, Ga.
(Member Greene County Medical Society)
Johnson, Grover C., Marthasville
Johnson, James S., Kansas City
Johnson, Joseph E., Kansas City
Johnson, Lanny L., East Lansing, Mich.
(Member St. Louis Medical Society)
Johnson, Leonard W., Platte City
Johnson, Maurice N., St. Louis
Johnson, Mitchell D., Ferguson
Johnson, Morris B., Grandview
Johnson, Roy, Ferguson
Johnson, Richard E., Columbia
Johnson, Thomas M., Kansas City
Johnson, Warford B., Springfield
Johnson, William A., Kansas City
Johnson, William F., Springfield
Johnston, Joseph L., Springfield
Johnstone, John, Jr., Kirkwood
Johnstone, Paul N., Kansas City
Jolly, Benjamin N., Mexico
Jolly, William H., Mexico
Jonas, Harry S., Jr., Independence
Jones, Andrew B., St. Louis
Jones, Augustin, St. Louis
Jones, Dorothy J., St. Louis
Jones, Edna M., Clinton
Jones, Edward S., Harrisonville
Jones, Gale O., Kansas City
Jones, Grey, St. Louis
Jones, James B., St. Louis
Jones, James H., St. Louis
Jones, John B., Kirksville
Jones, Keith D., Warrensburg
Jones, Marion E., Kansas City
Jones, Otey S., St. Louis
Jones, Richard A., St. Louis
Jones, Samuel T., III, Kansas City
Jones, Theodore R., Kansas City
Jones, Victor, Brentwood
Jones, Vincent L., St. Louis
Jordan, Edward J., St. Louis
Jordan, Walter R., Barnhart
Jorstad, Louis H., St. Louis
Joseph, Harold J., Ladue
Joslyn, Harold L., St. Louis
Jost, Charles A., St. Louis
Jotte, Richard F., St. Ann
Joyer, Robert M., St. Louis
Judd, Donald, St. Louis
Judge, Walter T., Crystal City
Judy, Joseph D., St. Louis
Jung, J. Marshall, Illmo
Justus, John B., Kansas City

K

Kahn, Lawrence, St. Louis
Kahn, Marvin, San Antonio, Tex.
(Member Jackson County Medical Society)
Kaiser, George C., St. Louis
Kallenbach, Glen P., Mexico
Kamada, Tsutomu, O'Fallon
Kamakas, Nicholas, St. Louis
Kaminsky, Watson W., St. Louis
Kamuran, Ozgoncu, St. Louis
Kanagowa, Hajime H., Jefferson City
Kanarek, Joseph, Kansas City
Kandt, Ray E., Jr., Kansas City
Kane, Clyde E., St. Louis
Kanter, Arnold N., Kansas City
Kantor, Julius M., Kansas City
Kantor, Samuel, Kansas City
Kaplan, Alex H., St. Louis
Kappesser, Netajean B., St. Louis
Kappesser, Roland C., St. Louis
Karandjeff, Apostle D., St. Louis
Kardesch, Milton, St. Louis
Karl, Michael M., St. Louis
Karraker, Alvan G., Farmington
Karsh, Robert S., St. Louis
Kartus, Irving, Kansas City
Kaskie, Clifford R., Clayton
Kasten, Melvin C., Cape Girardeau
Katz, M. Richard, St. Louis
Katz, Milton, Kansas City
Kauffman, Ruth, Versailles
Kaufmann, Herbert H., Kansas City
Kaul, Philip G., Kansas City
Kay, Billy F., Lee's Summit
Kayes, Jack, St. Louis
Kays, Kenneth M., St. James
Kearnes, Harold W., Independence
Kealhofer, George C., Kansas City
Keeble, Charles B., St. Louis
Keeler, James E., Kansas City
Keenoy, John J., St. Louis
Keffler, Karl L., St. Louis
Keim, John H., Cape Girardeau
Keller, Louis, St. Louis
Keller, Maurice J., St. Louis
Keller, Robert M., Wentzville
Kellett, John G., Webster Groves
Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah
Kelley, Robert W., St. Louis
Kelling, Douglas G., Waverly
Kelling, Jordan, Waverly
Kelly, Eugene H., Ironton
Kelly, Marshall W., Jefferson City
Kelly, R. Emmet, St. Louis
Kelly, William A., St. Louis
Kelsey, Kenneth L., Aurora
Keltner, Raymond M., Jr., Hancock, Mich.
(Member St. Louis Medical Society)
Kendall, Charles A., Independence
Kendall, Forrest H., Kansas City, Kan.
(Member Jackson County Medical Society)
Kendig, John H., St. Louis
Kendis, Joseph B., St. Louis
Kennard, George K., Kansas City
Kenney, Roy E., Neosho
Kenny, John A. C., Kansas City
Kent, Bela K., Kansas City
Kent, Clifford F., Kansas City
Keown, Kenneth K., Columbia
Kepler, Earl C., Fulton
Kernodle, Jefferson D., Kansas City
Kerr, David N., St. Louis
Kerr, Frank T., Monett
Kerr, S. Earl, Columbia
Kessler, Joseph J., St. Louis
Kessler, Sheldon, Florissant
Ketcham, William M., Kansas City
Ketterman, Grace H., Kansas City
Ketterman, Herbert L., Kansas City
Kettner, Edward G., Kansas City
Key, James S., Springfield
Keyes, Edward L., Clayton
Kibbe, Edgar A., California
Kieber, Robert W., St. Joseph
Kieffer, Roland S., St. Louis
Kieffer, Victor B., Jr., Augusta, Ga.
(Member St. Louis Medical Society)
Kienberger, Paul A., Independence
Kielar, Richard A., Fort Leonard Wood
Kiene, Richard H., Kansas City
Kienzle, Edward C., St. Louis
Kilker, Clarence H., Normandy
Kilker, Donald E., Normandy
Kilo, Charles, St. Louis
Kimball, Ireland W., Kansas City
Kimball, Merritt H., Kansas City
Kimberlin, Herbert C., Trenton
Kimelman, Nathan, St. Louis
Kimes, Ira D., Cameron
Kinder, James A., Cape Girardeau
King, Elbert R., Boise, Idaho
(Member West Central Missouri Medical Society
King, Eustace E., III, St. Louis
King, Francis C., Kirkwood
King, J. Tenbrook, Kansas City
King, John V., Webster Groves
King, Lucy J., St. Louis
King, Morris K., St. Louis
King, Phillip E., Liberty
King, Richard H., Clinton
King, Walter R., Kansas City
Kingsbury, Helen, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Kingsland, Robert C., Clayton
Kinsella, Edward D., St. Louis
Kinsella, Peter W., St. Louis
Kinsella, Ralph A., Jr., St. Louis
Kiphart, Richard, Columbia
Kipnis, David M., St. Louis
Kirk, Robert V., Kansas City
Kirschman, Robert E., Joplin
Kirstein, Melvin B., St. Louis
Kirtz, Louis P., St. Louis
Kiser, David M., Kansas City
Kissane, John M., St. Louis
Kister, George E., St. Charles
Kistner, William F., St. Louis
Kitchen, William M., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Klaff, Daniel D., St. Louis
Klebba, Larry B., Jefferson City
Klein, Andrew G., St. Louis
Klein, Arnold G., St. Louis
Klein, Bert H., St. Louis
Klein, Edward H., Kansas City
Klein, Saul J., St. Louis
Kleinschmidt, Clinton, St. Louis
Klenk, Charles L., St. Louis
Klepinger, Dayton P., Neosho
Kline, Carlyn M., St. Joseph
Kline, Edmund W., St. Joseph
Klinge, Frederick W., St. Louis
Klingner, George M., Springfield
Klingner, George M., Jr., Springfield
Klinkerfuss, George H., St. Louis
Klippel, Allen P., Clayton

Klippel, Bernhardt W., St. Louis
Kloecker, Richard J., St. Louis
Kloecker, Robert P., St. Louis
Klym, Nicholas, St. Louis
Knabb, Arthur D., Springfield
Knabb, Henry F., Jr., Springfield
Knabb, Kenneth E., Springfield
Kneal, E. Ellsworth, St. Louis
Kneibert, Fred L., Poplar Bluff
Knepper, Paul A., St. Joseph
Knese, Luke A., Redington Beach, Fla.
(Member St. Louis Medical Society)
Knight, Franklin P., St. Louis
Knight, John S., Kansas City
Knight, Lyle B., Lee's Summit
Knight, William A., Jr., St. Louis
Knipschild, Bedford F., Marshall
Knoch, H. Kermit, Kansas City
Knock, Henry L., Kirkwood
Knowles, R. R., St. Louis
Knowlton, Norman P., Jr., St. Louis
Koch, Robert E., Clayton
Koehler, Charles A., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Koehler, George A., St. Louis
Koehler, John W., Joplin
Koehler, P. Ruben, St. Louis
Koenig, Marvin I., St. Louis
Koerner, Kenneth A., St. Louis
Koessel, Arthur W., St. Louis
Kohler, Eugene J., St. Louis
Kohler, Louis H., St. Louis
Kohler, Monte R., Bolivar
Kolker, Allan E., St. Louis
Kolze, Vernon W., Springfield
Komanetsky, William M., St. Louis
Konikov, Nadya, St. Louis
Konzelmann, John A., St. Louis
Koon, Ben H., Bolivar
Koontz, Paul G., Kansas City
Kopp, Jules H., St. Louis
Kopp, Leonard J., St. Louis
Koppenbrink, Walter E., Jr., Higginsville
Korn, Robert L., Clayton
Korth, William M., Kansas City
Kotner, Lawrence M., St. Louis
Kouchoukos, Nicholas T., St. Louis
Koutsoumpas, William V., St. Louis
Kovac, Albert P., Excelsior Springs
Kowert, Edward H., St. Louis
Kozal, Francis L., Crystal City
Kozlowski, Albert E., St. Louis
Kraft, Edward O., Brentwood
Kraft, Jacob, Kansas City
Kramer, Fred, St. Louis
Kramolowsky, Helmuth H., St. Louis
Kraner, Justin F., St. Louis
Kranson, Seymour J., Independence
Kratz, Frederick W., North Kansas City
Kratz, Paul E., Cape Girardeau
Krause, G. Lynn, Jr., St. Louis
Krieger, John L., St. Louis
Krebs, Joseph M., Clayton
Krojanker, Rolf, St. Louis
Kromer, Charles, St. Louis
Krueger, Haven C., Kansas City
Kubin, Milford T., Columbia
Kuczer, Arnoldo, St. Louis
Kuebrich, Thomas C., Ferguson
Kuehner, Marvin E., APO, N. Y.
(Member St. Louis Medical Society)
Kuenzi, Donald E., Kansas City
Kuhlman, Robert E., St. Louis
Kuhn, John R., Jr., Joplin
Kuhn, Nobuko O., St. Louis
Kuhn, William F., II, Kansas City
Kulowski, Jacob, St. Joseph
Kurth, Robert K., St. Louis
Kurz, Rudolph F., Alton, Ill.
(Member St. Louis Medical Society)
Kutryb, Walter J., St. Louis
Kuttner, Marianne, St. Louis
Kyger, John E., Independence
Kyner, Thomas A., Kansas City

L

Lachance, Leopold, Centralia
Lacy, Paul E., St. Louis
Ladd, Charles B., St. Louis
Ladenson, Roland P., Columbia
LaDriere, Raymond J., St. Louis
Ladyman, George H., Poplar Bluff
LaHue, Lilburn D., Butler
LaHue, William C., Lexington
Laird, John M., Jr., Florissant
Lakes, John D., St. Louis
Lally, James J., Kansas City
Lam, Robert L., St. Louis
Lamar, Robert F., Kansas City
Lamb, Wanda, St. Louis
Lambert, Marian, Kansas City
Lambie, Rodger W., Kansas City
Lamy, John E., Sedalia
Landau, Daniel B., Hannibal
Landau, William M., St. Louis
Landis, George K., Kansas City
Landor, John H., Columbia
Lane, Clinton W., St. Louis
Lane, Daniel K., St. Louis
Lane, Jerald P., Harrisonville
Laney, Roland L., Carlsbad, Calif.
(Member Jasper County Medical Society)
Lang, John J., St. Louis
Langan, William J., Jr., St. Louis
Lange, Adolph C., St. Louis
Langhus, Melvin O., N. Kansas City
Langston, Walter R., Springfield
Lanier, Earl W., St. Louis
Lankford, Harold D., Mexico
Lanning, Richard C., Ste. Genevieve
Lanning, Richard J., Kansas City
Lanning, Robert J., Hannibal
Lansche, Elmer A., St. Louis
Lansche, W. Edward, St. Louis
Lapi, Angelo, Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Lapp, Harry C., Kansas City
Larimore, Joseph W., St. Louis
Larkin, Rosemary R., St. Louis
Larocca, Felix E. F., St. Louis
Larsen, Kenneth V., St. Louis
Larson, Paul U., St. Louis
Lassar, Gilbert N., St. Louis
Latham, Kenyon S., California
Latham, Raymond W., Kansas City
Latimer, Walter N. A., Hannibal
Lattinville, Henry E., St. Louis
Lau, Luis, St. Louis
Lauber, Joseph J., St. Louis
Lauderdale, William H., Jefferson City
Lauer, Daniel J., Kansas City
Lauer, John D., St. Louis
Laux, France A., St. Louis
Lawrence, George H., St. Louis
Lawrence, John R., Marshall
Lawton, John T., St. Louis
Lawton, Lawrence M., St. Louis
Layton, Ira C., Kansas City
Leahy, John G., St. Louis
LeBlanc, Leo J., St. Louis
L'Ecuyer, Jerome L., St. Louis
Lederer, Charles M., Warrensburg
Lederman, Joseph, St. Louis
Lee, Carleton H., St. Joseph
Lee, George C., Kansas City
Lee, Henry A., Kansas City
Leech, Charles A., Columbia
Leech, Maurice P., Fayette
Leeper, Sidlee W., Columbia
Legan, John K., Kennett
Legner, Stanley G., Perryville
Lehman, Philip C., St. Joseph
Lehner, Richard L., Kansas City
Leidinger, Karl J., Republic
Leifer, William W., Kansas City
Leightner, William, St. Louis
Leitch, Cecil G., Blue Springs
Leitz, Frank B., Kansas City
Lembeck, Joseph A., St. Louis
Lemmon, George B., Springfield
Lemmon, G. Bruce, Jr., Springfield
Lenobel, Milton I., Clayton
Lentz, Clark H., Kansas City
Lentz, Harold C., Neosho
Leo, William A., Kansas City
Leonhardt, Erwin M., St. Louis
Leroux, Gene H., Doniphan
Lerwick, Everett R., St. Louis
Leslie, Charles H., Kirkwood
Leslie, J. Paul, Jefferson City
Leslie, James T., Louisville, Ky.
(Member Cole County Medical Society)
Leslie, James T., Jr., Jefferson City
Levey, Harry B., Kansas City
Levey, Simon A., Overland
Levin, Marvin E., St. Louis
Levitt, Joseph, St. Louis
Levy, Irwin, St. Louis
Levy, Jerome F., Fort Campbell, Ky.
(Member St. Louis Medical Society)
Lewellen, Charles H., Louisiana
Lewin, Wilbur H., St. Louis
Lewis, Charles R., St. Louis
Lewis, James E., Jr., St. Louis
Lewis, Noel R., Springfield
Lewis, Ray B., Columbia
Lewis, Revis C., Kansas City
Leydig, Stanley M., St. Louis
Liang, Howard S., St. Louis
Lichtor, Alexander, Kansas City
Lichtor, Joseph M., Kansas City
Lichty, Charles A., Shelbina
Lieb, Francis X., St. Louis
Lieb, Otto, St. Louis
Lieberman, B. Albert, Jr., Kansas City
Lieberman, David M., St. Louis
Liebmann, Fritz M., Brooklyn, N. Y.
(Member St. Louis Medical Society)
Liese, Grover B., St. Louis
Lilly, Douglas R., St. Louis
Lilly, Terry E., Jr., Kansas City
Lindberg, Donald, Columbia
Lindeman, Carl H., St. Louis
Lindgren, Carleton J., Independence
Lindquist, Carl N., Kansas City
Lindquist, Paul A., Liberty
Link, Alexander J., St. Louis
Link, Vance E., Independence
Linsenmeyer, Charles M., St. Charles
Linville, Howard E., Kansas City
Lipschitz, Ervin, St. Louis
Lipsitz, Ellis S., St. Louis
Lischer, Carl E., St. Louis
Lissner, Arthur B., St. Louis
Liston, Odus, Oakgrove
Little, Monroe H., St. Louis
Littlejohn, Robert T., Kansas City
Littmann, Lewis E., St. Louis
Litton, Lyle D., Springfield
Litton, Lynn O., Columbia
Litwiller, R. W., Columbia
Litzow, Louis T., St. Louis
Lloyd, Ivan E., Independence
Lockhart, Charles E., Springfield
Lodwick, Gwilym S., Columbia
Loeb, Virgil, Jr., St. Louis
Loeffel, Ellen S., St. Louis
Logan, James A., Warsaw
Logue, John T., Columbia
Lohmar, Roland E., Fort Ord, Calif.
(Member Boone County Medical Society)
Lohr, Curtis H., St. Louis
Lohr, Robert W., St. Louis
Lohrentz, Lois H., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Loitman, Bernard, St. Louis
Londe, Alan M., Hill AFB, Utah
(Member St. Louis Medical Society)
Londe, Sol, St. Louis
London, Stanley L., St. Louis
Lonergan, Warren M., St. Louis
Long, Curtis W., Butler
Long, David S., Harrisonville
Long, Frank B., St. Louis
Long, R. Stacy, Kansas City
Longenecker, Joe L., Joplin
Longo, D. V., Lebanon
Lonsway, Maurice J., St. Louis
Lonsway, Maurice J., Jr., St. Louis
LoPiccolo, Vincent J., St. Louis
LoPiccolo, Vincent J., Jr., St. Louis
Lord, Richard E., St. Louis
Lorenc, Ernest, Springfield
Lottes, James O., St. Louis
Loughead, John R., Poplar Bluff
Loutzenhiser, James K., Kansas City
Love, Walter S., Nevada
Loving, B. Rush, Ballwin
Lovinggood, Thomas A., Cape Girardeau
Lowe, Alvin L., Sedalia
Lowe, Horace A., Jr., Springfield
Lowell, Paul, Kansas City
Lowenstein, Paul S., St. Louis
Lowrey, Ford J., Kansas City
Loyd, Earl L., Jefferson City
Lubowitz, Herbert, St. Louis
Lucas, Fred V., Columbia
Lucas, G. Elden, St. Louis
Lucido, Joseph L., St. Louis
Lucke, Eugene M., Hannibal
Luckenbill, Paul T., Plattsburg
Luedde, Fullerton W., St. Louis
Luedde, Philip S., St. Louis
Luehrs, Robert O., St. Louis
Lugo, Samuel, St. Louis
Luh, Andrew, St. Louis
Lund, Herluf G., St. Louis
Lund, Robert H., Clayton
Lurie, Harold H., Springfield
Lusk, Charles A., Jr., Butler
Luten, Drew W., St. Louis
Luter, Carter W., Butler
Luther, George A., St. Louis
Lutkewitte, Joseph F., Ste. Genevieve
Lutz, Martin H., St. Louis
Lyddon, Harold R., Jr., Kansas City
Lyle, Robert R., Versailles
Lyman, Edward H., St. Louis
Lynxwiler, Chester P., St. Louis
Lyss, Carl, St. Louis

Lytle, William R., Rolla
Lyttle, Garnet C., St. Louis
Lytton, George J., Kansas City
Lytton, William B., St. Louis

Mc

McAdam, Charles R., St. Louis
McAfee, C. Alan, St. Louis
McAlhany, Howard J., Springfield
McAlister, William H., St. Louis
McArtor, Thomas R., Browning
McBurney, Charles A., Slater
McCall, Edwin L., St. Louis
McCalla, John P., Kansas City
McCann, John F., St. Louis
McCann, Louis P., Nevada
McCanse, Andrew, Kansas City
McCarroll, Henry R., St. Louis
McCarthy, John M., St. Louis
McCarthy, Thomas D., Ferguson
McCarthy, William F., Kansas City
McCaughan, John M., New London, Conn. (Member St. Louis Medical Society)
McClanahan, Robert C., Kansas City
McCloskey, R. Bruce, Webster Groves
McClure, David N., Clayton
McClure, James N., Jr., St. Louis
McClure, Thomas C., Fort Lauderdale, Fla. (Member Semo County Medical Society)
McCool, James F., Jr., St. Louis
McCool, Stanley G., St. Louis
McConchie, James E., Independence
McCorkle, E. Lee, Marshall
McCormick, James E., Kansas City
McCoy, Donald L., Marshall
McCoy, Frederick J., Kansas City
McCoy, Warren R., Caruthersville
McCracken, Samuel R., Excelsior Springs
McCraw, Doyle C., Bolivar
McCray, Glen M., Kansas City
McCubbin, Clarence R., Leawood, Kan. (Member Jackson County Medical Society)
McCullough, Campbell C., Kansas City
McCuniff, William B., Kansas City
McDaniel, John R., St. Joseph
McDermott, Alfred E., Perryville
McDonald, Eugene F., Jackson
McDonald, George H., St. Louis
McDonald, Victor G., Jr., Kansas City
McDonald, Wilbur P., St. Joseph
McDonnell, John F., Kansas City
McDonough, John, St. Louis
McDowell, Frank, St. Louis
McEachen, William H., Kansas City
McElroy, Glenn L., Columbia
McEntyre, James M., Columbia
McFadden, Gene A., Waverly
McFadden, James F., Jr., St. Louis
McFadden, James F., Sr., St. Louis
McFarland, H. Richard, Kansas City
McFarland, Morris D., Kansas City
McGannon, Paul T., Kansas City
McGinnis, Byron J., St. Louis
McGinnis, William F., St. Louis
McGinty, Charles P., Cape Girardeau
McGuire, Thomas H., Kansas City
McHaney, John W., Jefferson City
McIntosh, Donald E., Kansas City
McIntyre, John D., Kansas City
McKaskle, Clarence W., Caruthersville
McKee, Joseph W., Kansas City
McKee, Oliver A., Kirkwood
McKee, Wallace P., Kansas City
McKenna, David H., Wheaton, Md. (Member St. Louis Medical Society)
McKinney, Joseph K., St. Louis
McKinsey, John J., Springfield
McKinstry, Karl V., DeSoto
McKnelly, William V., Jefferson City
McKnelly, William V., Jr., Kansas City
McLain, Bobby M., Poplar Bluff
McLane, Jerry F., Poplar Bluff
McLean, Harry A., St. Louis
McLean, Royal C., St. Louis
McLeod, John, Kansas City
McMahon, Bernard J., Clayton
McMillan, Thomas E., Kansas City
McMurray, Herbert C., Manchester
McNalley, Frank P., Clayton
McNalley, Michael, St. Louis
McNamara, John J., Richmond Heights
McNeel, Lee A., Jr., Greenfield
McNew, William T., Carthage
McNutt, Theodore L., Kansas City
McPhee, William R., Kansas City
McPheeters, James W., Poplar Bluff
McPike, Lloyd H., Joplin
McSwiney, John G., St. Louis
McVay, James R., Kansas City
McVay, James R., Jr., Kansas City
McWherter, Lottie B., Kansas City

M

Mabrey, John P., Plattsburg
Macauley, Bernard J., Poplar Bluff
MacBryde, Cyril M., St. Louis
Maccubbin, Don A., Kansas City
MacDonald, Robert R., Jr., Hamilton AFB, Calif. (Member St. Louis Medical Society)
Macdonald, William C., St. Louis
Macdonnell, Thomas M., Marshfield
Machek, Otakar, St. Louis
MacInnis, Florence E., Kansas City
Mack, Mary L., address unknown
Mackenzie, James W., Columbia
Maclean, J. Alexander, Baldwin City, Kan. (Member Jackson County Medical Society)
MacLaughlin, James C., Joplin
MacNaughton, Ralph E., Kansas City
MacNaughton, Robert A., Leawood, Kan. (Member Jackson County Medical Society)
Macnish, James M., St. Louis
Macon, William L., Jr., St. Louis
Maddox, Albert R., Sedalia
Maddox, John D., Joplin
Maddux, William P., Springfield
Madison, Waite H., Kansas City
Magaletta, George E., Cape Girardeau
Magee, Charles D., St. Louis
Magee, Robert L., El Dorado Springs
Magee, William E., St. Louis
Magidson, Joseph, St. Louis
Magill, Joseph S., Milan
Maginn, R. Reilly, Cambridge, England (Member St. Louis Medical Society)
Maginn, Richard L., St. Joseph
Magness, Guy N., University City
Magness, William C., Branson
Mahe, George A., St. Louis
Maher, Robert W., Springfield
Maher, Thomas F., St. Louis
Maizus, Saul H., St. Louis
Malles, A. Conrad, St. Louis
Manansala, Antonio Q., St. Louis
Mandler, George, Chillicothe
Manganaro, Frank J., St. Louis
Mangels, Kenneth A., Independence
Mangelsdorf, Thomas K., St. Louis
Manion, Peter J., St. Louis
Manley, Charles B., Jr., St. Louis
Mann, James K., Hannibal
Mannis, Ben G., St. Louis
Mansur, Edward E., Stuart, Fla. (Member Cole County Medical Society)
Mantz, Frank A., Kansas City
Maple, Francis M., Springfield
Maravilla, Levy M., St. Louis
Marco, Philip J., Columbia
Marcus, Morris D., St. Louis
Margolis, Richard M., St. Louis
Marienfeld, Carl J., Columbia
Markel, Arthur D., Poplar Bluff
Marks, Mark M., Kansas City
Marmor, William A., St. Louis
Mars, Hartley F., Forsyth
Marsh, Alice, Pleasant Hill
Marsh, Wallace S., New Orleans, La. (Member Clay County Medical Society)
Marshall, Alfred H., Charleston
Marshall, Cameron F., Kansas City
Marshall, William G., Glasgow
Marston, F. James, Jr., St. Joseph
Martel, Dominique, St. Louis
Marten, Sue, Viburnum
Martin, Andrew D., Sikeston
Martin, Clyde V., Kansas City
Martin, Daniel C., Kansas City
Martin, Daniel J., Fort Benning, Ga. (Member St. Louis Medical Society)
Martin, Forrest L., Nevada
Martin, Frederick W., Jr., St. Louis
Martin, J. Barlow, St. Louis
Martin, James M., Kirkwood
Martin, John N., St. Joseph
Martin, Maynard W., Houston, Tex. (Member St. Louis Medical Society)
Martin, Richard H., Columbia
Martin, Wilfred E., Odessa
Martin, W. Joe, Louisiana
Martt, Jack M., Columbia
Martz, John C., St. Louis
Masor, Nathan A., Butler
Massie, Edward, St. Louis
Masters, William H., St. Louis
Masterson, Byron J., Kansas City
Masucci, Joseph M., Kansas City
Mathewson, Hugh S., Kansas City
Matovich, Violet B., Columbia
Matteson, Frank B., Grant City
Matthews, John G., St. Louis
Matthews, John I., Jefferson City
Mattis, Robert D., Clayton
Maughs, Sydney B., St. Louis
Max, Paul F., St. Louis
Maxey, Hugh W., Jefferson City
Maxson, T. Reed, Warrensburg
Maxwell, John A., Kansas City
Maxwell, Richard W., St. Louis
May, Albert L., Jr., Poplar Bluff
May, Benjamin F., St. Louis
May, James W., Kansas City
Mayer, John H., Jr., Kansas City
Mayer, Robert A., St. Louis
Mayer, William D., Rockville, Md. (Member Boone County Medical Society)
Mayfield, James L., Crystal City
Mays, Frank G., Washington
Maze, Lawrence E., St. Louis
Mead, Samuel T., Slater
Meador, James R., Clayton
Meagher, Arthur J., St. Louis
Medler, Francis J., St. Louis
Medlicott, William J., Kansas City
Mehan, Donald J., St. Louis
Meier, Francis X., Jefferson City
Meinberg, William H., St. Louis
Meiners, Paul N., St. Louis
Meiners, Theodore M., St. Louis
Meinershagen, Charles W., Jefferson City
Meirink, Thomas P., St. Louis
Melburn, Colleen M., Columbia
Melgaard, S. Ross, Kansas City
Melia, Bernard J., Jr., Jefferson City
Melick, William F., St. Louis
Menchetti, Don E., Springfield
Mendelsohn, Robert S., St. Louis
Mendelson, David F., St. Louis
Mendonsa, Lawrence E., St. Louis
Menendez, Manuel F., St. Louis
Menne, Marvin G., Ironton
Mercado, Raul, Jr., Pittsburgh, Pa. (Member Boone County Medical Society)
Merenda, Sam J., St. Louis
Meriwether, Don R., Mission, Kan. (Member Jackson County Medical Society)
Merklin, Anton L., St. Louis
Merrims, Theodore, St. Louis
Merritt, Burch A., St. Louis
Merz, Jean J., St. Louis
Mestres, Hugh M., St. Louis
Metz, Charles O., St. Louis
Metzgar, Marshall T., Columbia
Metzl, Kurt, Kansas City
Meyer, Claude B., Springfield
Meyer, Curtis A., St. Louis
Meyer, Herman M., St. Louis
Meyer, James E., Manchester
Meyer, Jay, St. Louis
Meyer, John S., St. Louis
Meyer, Paul W., Kansas City
Meyers, Harold L., Mission, Kan. (Member Jackson County Medical Society)
Meyers, John B., Clayton
Mezera, Raymond A., St. Louis
Michael, Kenneth D., St. Louis
Michael, Vernon E., St. Louis
Michaelis, Charles E., Glendale, Calif. (Member Mineral Area County Medical Society)
Michaelree, John F., St. Louis
Middleman, Isadore C., St. Louis
Middleton, John W., Louisiana
Mier, Thomas M., St. Louis
Milder, Benjamin, St. Louis
Miles, George O., Kansas City
Miles, Paul W., St. Louis
Miller, Charles, Jr., Kirkwood
Miller, Charles W., Coral Gables, Fla. (Member St. Louis Medical Society)
Miller, Clinton L., Lee's Summit
Miller, Clyde S., Waynesville
Miller, D. Herbert, Muskogee, Okla. (Member Chariton-Macon-Monroe-Randolph County Medical Society)
Miller, David V., Poplar Bluff
Miller, Geoffrey W., St. Louis
Miller, Gerald L., Kansas City
Miller, Harold W., Willow Springs
Miller, Howard S., Macon
Miller, Jule P., Jr., St. Louis
Miller, Leroy J., Columbia
Miller, Max I., Prairie Village, Kan. (Member Jackson County Medical Society)
Miller, Norman C., St. Louis
Miller, Oliver J., Cape Girardeau
Miller, Wilson H., Kansas City

Millikin, Lester A., St. Louis
Milster, Clyde R., St. Louis
Miltenberger, Paul C., Kennett
Minnihan, Robert W., Affton
Minton, Robert S., St. Joseph
Mishkin, Marvin R., St. Louis
Miskovsky, Emil F., St. Louis
Missey, Wilburn C., Jr., St. Louis
Mitchell, Andrew D., Kansas City
Mitchell, Eugene, St. Louis
Mitchell, Franklin L., Columbia
Mitchell, Robert H., Kansas City
Mitchell, Roy E., Salem
Mitchell, Thomas J., St. Clair
Mitra, Nirmal K., Kansas City
Mixson, William C., Kansas City
Moellenhoff, Robert W., Washington
Moen, Berwyn H., St. Joseph
Molden, Charles A., St. Louis
Monafo, William W., Jr., St. Louis
Monat, Seymour, St. Louis
Montani, Charles, St. Louis
Montello, Samuel A., Kansas City
Montes, Arturo C., Baden
Montes-de-Oca, Julio, St. Louis
Montgomery, Austin F., Brentwood
Montgomery, James G., Kansas City
Moody, Jackson C., Harrisonville
Moon, Thomas R., Jr., St. Louis
Mooney, Justin L., Kansas City
Mooney, Marcel L., Kansas City
Moore, Allen H., Jr., Branson
Moore, Alva, St. Louis
Moore, Carl V., St. Louis
Moore, Dan B., Poplar Bluff
Moore, Harry G., St. Louis
Moore, Harry G., Jr., St. Louis
Moore, John L., St. Louis
Moore, Robert A., Kansas City
Moore, Walter L., St. Louis
Moore, William E., Normandy
Moranville, Benedict A., Columbia
Moreano, Armando H., Kansas City
Morehead, William E., Malden
Morest, F. Stanley, Pompano Beach, Fla.
(Member Jackson County Medical Society)
Morgan, David B., Kansas City
Morgan, Harry C., St. Louis
Morgan, Troy O., Jr., Albany
Morgan, W. Thomas, Jr., West Plains
Morley, Louise A., Shawnec Mission, Kan.
(Member Jackson County Medical Society)
Morris, Harvey E., St. Louis
Morris, Joseph H., Jr., Independence
Morris, Mary E., St. Louis
Morrison, Arlen, Clayton
Morrison, Donald H., Kansas City
Morrison, George B., Nevada
Morrison, T. A., Aurora
Morse, John P., Phoenixville, Pa.
(Member Jackson County Medical Society)
Morse, Marvin, St. Joseph
Mortensen, Frede, St. Louis
Morton, Paul C., Springfield
Moseley, F. Thomas, Springfield
Moses, Robert A., St. Louis
Moss, Paul, Kansas City
Mosser, Robert S., Independence
Mothershead, John L., St. Joseph
Motzel, Albert J., St. Louis
Mount, Allan, Independence
Mountjoy, Grace S., St. Louis
Mowrer, Marie O., St. Louis
Mowrey, William O., Jennings
Muckerman, Richard I. C., St. Louis
Muehlberger, James J., Kansas City
Muelheims, Gerhard H., St. Louis
Mueller, Clarence E., St. Louis
Mueller, John J., Chesterfield
Mueller, Joseph A., St. Louis
Mueller, Martin J., Kansas City
Mueller, Morris A., St. Louis
Mueller, Robert, St. Louis
Mueller, Robert J., St. Louis
Mueller, Wilbur K., St. Louis
Muench, Albert H., St. Joseph
Muenster, Vincent P., St. Charles
Muether, Raymond O., St. Louis
Mullarky, Wilbur A., Chesterfield
Mullen, Jack, Bonne Terre
Mullen, Leo M., Kansas City
Mulligan, Leo V., St. Louis
Mullinax, Orr, Nevada
Mullins, Bernard L., N. Kansas City
Mullins, John E., St. Louis
Multhauf, Cyril J., Kansas City
Mundy, Homer F., St. Joseph
Mundy, William L., Kansas City
Munsch, Girard A., St. Louis
Murney, Joseph A., Washington
Murphy, Bernard L., Hannibal
Murphy, George E., St. Louis
Murphy, James J., Kansas City
Murphy, James P., St. Louis
Murphy, John C., St. Louis
Murphy, Paul, St. Louis
Murphy, Robert J., Kansas City
Murray, Wilber L., Kansas City
Muschany, Norman K., St. Louis
Musgrave, David E., Excelsior Springs
Muth, Robert G., Kansas City
Mutshnick, Clara P., St. Louis
Myers, James M., Rolla
Myers, John S., Kansas City
Myers, Robert M., Kansas City

N

Naime, Mansour J., Kansas City
Nakada, James R., St. Louis
Napper, Marvin L., Springfield
Naryka, Joseph J., St. Louis
Nash, Helen E., St. Louis
Nash, W. Hampton, St. Louis
Nathan, Lester J., St. Louis
Neal, M. Pinson, Columbia
Near, David M., Florissant
Needels, Orval T., Kansas City
Neilson, Arthur W., St. Louis
Nelson, Bentley A., Kansas City
Nelson, J. Roger, Kirkwood
Nelson, James S., Brentwood
Nemec, Stanley S., St. Louis
Ness, Carl K., St. Joseph
Nesselrode, John H., Independence
Nester, Charles A., St. Louis
Neu, Leo T., Jr., Springfield
Neubeiser, Ben L., St. Charles
Neun, William F., St. Louis
Newman, Mary Jane, Cassville
Newman, Percy, St. Louis
Newman, Robert L., Kansas City
Newport, Gerald, St. Louis
Newton, Gordon, St. Louis
Newton, William T., St. Louis
Nickel, James F., St. Louis
Nickson, Charles E., Jr., Independence
Nicolai, Charles H., St. Louis
Nicolay, Kenneth S., Kansas City
Niedermeyer, Edward L., Tarkio
Niedermeyer, George J., St. Louis
Niesen, Frank J., St. Louis
Nigh, Charles A., St. Louis
Nigro, Dominic M., Kansas City
Nigro, E. Robert, Kansas City
Nigro, Joseph A., Kansas City
Nishi, Toshio, St. Louis
Nixon, Edward E., Gallatin
Noah, Joseph W., St. Louis
Noback, Richardson K., Kansas City
Nolan, Charles J., St. Louis
Noller, Henry W., Overland
Noltensmeyer, Milton N., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Nomura, Roy M. Y., St. Louis
Norton, William H., St. Louis
Nouhan, Joseph G., Jr., St. Louis
Nouri, Hassan, St. Louis
Nuetzel, John A., St. Louis
Nunez, Maria M., St. Louis
Nunn, Pat M., Kansas City
Nunnelly, Gordon M., Cape Girardeau
Nussbaum, Paul B., Cape Girardeau
Nussbaum, Paul S., Cape Girardeau
Nussbaum, Robert A., St. Louis
Nye, Robert S., St. Louis

O

Oakley, Margaret M., St. Louis
O'Bannon, Lon W., Jr., Florissant
Obermeyer, Charles G., St. Louis
O'Brien, Edward C., St. Louis
O'Brien, Harry F., Mexico
O'Brien, James A., Muskogee, Okla.
(Member Jasper County Medical Society)
O'Brien, Liam, St. Joseph
O'Brien, Robert M., St. Louis
O'Connor, Robert J., Florissant
O'Connor, William B., St. Joseph
O'Donnell, Joseph V., St. Louis
O'Dowd, James A., St. Louis
Oehler, William F., Cape Girardeau
Oetter, Donald L., St. Louis
O'Farrell, Thomas P., Kansas City
Ogilvie, John H., Gravois Mills
Oglesby, Richard B., St. Louis
Ogura, Joseph H., Ladue
O'Hearne, John J., Kansas City
Ohmoto, Masao, St. Louis
O'Keefe, Joseph D., St. Louis
O'Kell, Richard T., Kansas City
Okun, Edward, St. Louis
O'Leary, James L., St. Louis
Olin, Robert H., St. Louis
Olive, George C., Neosho
Oliver, George A., Farmington
Olmsted, William H., St. Louis
Olson, Robert E., St. Louis
O'Malley, Eugene J., St. Louis
O'Malley, James F., Kansas City
O'Neal, Lawrence W., St. Louis
O'Neal, Patricia, St. Louis
O'Neil, James H., Kansas City
O'Neill, John B., St. Louis
Ongjoco, Melchor I., St. Louis
Onken, Henry D., St. Louis
Oppenheimer, Henry E., Clayton
O'Reilly, D. Elliott, St. Louis
Orenstein, Joseph M., St. Louis
Orgel, M. Norman, St. Louis
Orsay, Paul K., St. Louis
Ortiguero, Leopoldo M., St. Louis
Ortmeyer, Leroy F., St. Louis
Osborn, Donald O., St. Louis
Osborn, Retus W., III, Farmington
Osborne, Charles D., Sedalia
Osbourn, Richard A., Fulton
Ossman, Julian A., Jefferson City
Ost, Mark D., Kansas City
O'Sullivan, Daniel F., St. Louis
O'Sullivan, George A., St. Louis
Ott, Harold John, St. Louis
Ott, Harold J., Maplewood
Ottensmeyer, Charles D., St. Louis
Otto, Thomas G., Cape Girardeau
Overend, Donald S., Springfield
Overesch, Harry B., Kansas City
Overholser, Milton D., Columbia
Owen, Robert F., St. Louis
Owens, Graham J., Kansas City
Owens, Hugh H., Kansas City
Owens, Richard L., Kansas City
Owens, Robert H., Kansas City
Owings, Raymond H., Sedalia
Owre, Alfred, Jr., Kansas City
Ozar, Milton B., Kansas City
Ozenberger, Larry A., Plattsburg
Ozmat, Orhan, St. Louis

P

Packman, Robert C., St. Louis
Paddock, Charles S., Joplin
Padfield, Earl G., Jr., Kansas City
Page, Jesse W., Sikeston
Paine, Robert, St. Louis
Painter, Andrew E., Portageville
Painter, Lattie B., Jr., Portageville
Pakula, Sidney, Kansas City
Palazzo, Frank A., St. Louis
Palcheff, Chris L., Springfield
Palenske, Robert L., Hornersville
Palermo, Vincent G., Chesterfield
Paletta, Francis X., St. Louis
Pallett, Harold A., Kansas City
Palmer, Lily A., St. Louis
Papp, Sandor D., Joplin
Parashak, Paul M., St. Louis
Parato, John M., St. Louis
Pareira, Morton D., Manchester
Paris, William H., Normandy
Park, George M., Chesterfield
Park, William I., Jr., Springfield
Parker, Arthur C., Jr., Poplar Bluff
Parker, Brent M., St. Louis
Parker, Elmer L., Kansas City
Parker, H. Graham, Platte City
Parker, Hubert M., Kansas City
Parker, Robert H., Kansas City
Parker, Thomas W., University City
Parker, William, St. Louis
Parelman, Allen G., Kansas City
Parks, Stephen, Sikeston
Parlato, George S., Springfield
Parrish, Henry M., Columbia
Parsons, Bernie, Albany
Parsons, D. LeRoy, Cape Girardeau
Parsons, Eugene O., Kansas City
Parsons, Richard P., St. Louis
Pascoe, James J., Nevada
Passanante, Bartholomew M., St. Louis
Passman, Harold, Kansas City
Pate, Otho S., N. Kansas City
Patient, William F., St. Louis
Patrick, Roman L., Jr., St. Louis
Patterson, Donald R., Joplin
Patterson, Grover S., Carthage
Patton, William G., San Marino, Calif.
(Member Mineral Area County Medical Society)

Pawol, S. E., St. Louis
Payne, John H., Fort Knox, Ky.
(Member St. Louis Medical Society)
Payne, John W., Columbia
Payne, Meredith J., St. Louis
Pearman, Carl C., Columbia
Pearse, Roy W., Jr., Nevada
Pearson, Paul E., Kansas City
Peck, Chester R., Jr., Kennett
Peden, Burnet W., Clayton
Peden, James C., Jr., St. Louis
Peden, Joseph C., St. Louis
Peden, Joseph C., Jr., St. Louis
Peebles, J. B., Jr., Kirkwood
Peeler, James O., St. Louis
Peete, Don C., Kansas City
Pelz, Mort D., Miami, Fla.
(Member St. Louis Medical Society)
Pemberton, Charles W., Kansas City
Pence, F. Wendell, Carthage
Penner, Stanley, Kansas City
Penninger, William H., Springfield
Pennington, Francis E., St. Louis
Pennoyer, James, Webster Groves
Pentecost, Richard L., Kansas City
Perez, Blanca M., St. Louis
Perez-Mesa, Carlos, Columbia
Perico, Carlos J., Kansas City
Perkins, David E., St. Louis
Perll, Maurice F., Kansas City
Perll, Rita D., Kansas City
Perna, Vincent P., St. Louis
Pernoud, Flavius G., Jr., St. Louis
Pernoud, Michael F., St. Louis
Perry, David C., Mound City
Perry, H. Mitchell, Town & Country
Perry, Lawrence L., Jr., Kansas City
Perry, Ralph, Kansas City
Perry, William D., St. Louis
Petersen, Arthur G., Kansas City
Petersen, Gerald D., Kansas City
Petersen, Harold E., St. Joseph
Peterson, Carl M., Kansas City
Peterson, Donald B., Fulton
Peterson, Frederick D., St. Louis
Peterson, George L., Shawnee Mission, Kan.
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Peterson, Malcolm L., St. Louis
Peterson, Milton C., Kansas City
Peterson, Stanley S., Springfield
Peterson, Walter R., Kansas City
Petitt, Robert M., Kansas City
Petry, Ezra L., Kansas City
Pfefer, Leland U., Columbia
Pfeffer, Robert I., St. Joseph
Pfeifer, Oliver C., St. Louis
Pfuetze, Edwin L., Kansas City
Phillips, Hanford, St. Louis
Phillips, John J., Brentwood
Philp, John R., Kansas City
Pianetto, M. Besso, Koch
Piccione, Leonard N., St. Louis
Pickard, Clarence M., Columbia
Pickard, Nicholas S., Shawnee Mission, Kan.
(Member Jackson County Medical Society)
Pickens, E. Allen, Nevada
Pickens, Edgar E., Kansas City
Pierron, John B., Kansas City
Pifer, Lawrence H., St. Joseph
Pileggi, Felix A., N. Kansas City
Pilla, Lawrence A., St. Louis
Pingelton, William B., Columbia
Pinsker, Oscar T., Kansas City
Piper, Donald K., Kansas City
Pipes, Keith E., Brentwood
Pipkin, Garrett, Kansas City
Pitsinger, Nolan B., St. Louis
Pitts, Ferris N., Jr., St. Louis
Platt, William R., Clayton
Platz, John H., Carrollton
Plax, Steven, St. Louis
Plesons, John D., St. Louis
Plowman, Edward M., Hannibal
Plumlee, John E., Columbia
Plumpe, W. Tupper, St. Louis
Podos, Steven M., St. Louis
Podrecca, Guido I., Springfield
Poggemeier, William H., Jr., St. Charles
Polk, George M., Kansas City
Polk, John W., Springfield
Pollack, Maxwell A., St. Louis
Pollock, Leo H., Kansas City
Poor, Carl W., Neosho
Pope, Charles H., Jr., Independence
Popp, Carl G., Sikeston
Porporis, Arthur A., St. Louis
Porter, Louis, Kansas City
Porter, Russell C., Seal Beach Calif.
(Member Clay County Medical Society)
Portuondo, Bonaventura C., St. Louis
Poser, Charles M., Kansas City
Post, Cyril A., Poplar Bluff
Post, John P., Washington
Post, Lawrence T., Jr., St. Louis
Post, M. Hayward, Pleasant Valley, Conn.
(Member St. Louis Medical Society)
Post, Stephen L., St. Louis
Post, Winfred L., Joplin
Potashnick, Robert, St. Louis
Potchen, E. James, St. Louis
Potter, Caryl A., Jr., St. Joseph
Potter, Lee G., Kansas City
Potter, Reese H., St. Louis
Potter, Thompson E., St. Joseph
Potts, Donald A., Independence
Powell, Charles B., Florissant
Powell, Earl A., St. Louis
Powell, Edwin M., Springfield
Powell, Nelson E., Kansas City
Powell, Robert G., Joplin
Powers, John M., Kansas City
Powers, Pierce W., St. Louis
Powers, William E., St. Louis
Pranger, Sylvester H., St. Louis
Prater, Bill G., Springfield
Prentiss, Harry S., Kansas City
Presnell, Cleitus A., St. Louis
Press, Maurice J., St. Louis
Preston, Albert, Jr., Kansas City
Price, Charles H., Cassville
Price, Kenneth C., St. Louis
Printz, Joseph H., Kansas City
Printz, Otto J., Kansas City
Probst, Raymond E., St. Louis
Probstein, Jacob G., St. Louis
Proctor, Donald C., Sedalia
Pruett, Burchard S., St. Louis
Pruett, Don S., St. Louis
Pruett, Hubert S., St. Louis
Pruett, Paul L., Springfield
Pucci, Gregory L., Kansas City
Pugh, Reginald P., Columbia
Pugh, Richard G., Independence
Purcell, Harry K., St. Louis
Purcell, Paul L., Smithville
Purkerson, Mabel L., St. Louis
Pyne, Herbert S., St. Louis

Q

Quer, Erich A., Kansas City
Quevy, Richard G., St. Louis
Quick, Richard T., St. Louis
Quintana, Manuel M., Miami, Fla.
(Member Buchanan County Medical Society)
Quistgard, Paul C., Kansas City

R

Rachlin, Maxwell, Brentwood
Rader, Ada B., Kansas City
Rader, Edward S., St. Louis
Rader, George B., St. Louis
Ragland, John E., Ballwin
Ragsdale, Edward, St. Louis
Ragsdale, George M., Paris
Raich, Robert A., Kansas City
Rainey, Robert, St. Louis
Rainwater, Elmer H., Springfield
Rall, Kenneth L., Columbia
Ramey, Ehret O., Kansas City
Ramos, John F., Jr., Kansas City
Ramsey, Robert H., Ferguson
Randall, Don Q., St. Charles
Randolph, Bernard C., St. Louis
Rannie, Paul R., Independence
Rao, Carlo, St. Louis
Raper, Charles A., Poplar Bluff
Rapp, Earl L., Hannibal
Rapp, Harold B., Cape Girardeau
Rappold, H. O., St. Louis
Rawlins, Fred E., Cape Girardeau
Rawlins, Kelly, Holden
Ray, C. Thorpe, Columbia
Raybuck, Harry E., St. Louis
Raynor, Richard, Marshall
Recant, Lillian, St. Louis
Rector, Joe L., Jr., Kansas City
Redington, James C., Jr., Clayton
Redmond, William, St. Joseph
Reeder, Charles C., New Madrid
Reese, A. Victor, St. Louis
Reeves, Lane A., Rolla
Reh, Edward P., St. Louis
Rehm, Ralph, Bloomfield
Reich, Harry A., St. Louis
Reichert, M. Cecelia, St. Louis
Reiches, Aaron J., St. Louis
Reid, James A., Marshall
Reider, Richard A., Warson Woods
Reilly, Leo J., St. Louis
Reilly, Pierce J., St. Louis
Reineck, John A., St. Louis
Reinhard, Edward H., St. Louis
Reinhardt, George R., Kansas City
Reinkemeyer, Joseph A., Travis AFB, Calif.
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Reis, Carl J., St. Louis
Reister, Dorothy D., Shawnee Mission, Kan.
(Member St. Louis County Medical Society)
Reister, Philip D., Kansas City
Reitman, Stanley, St. Louis
Reitz, Carl H., Kansas City
Remley, George C., Kansas City
Rendleman, George F., St. Louis
Rendleman, George, Jr., St. Louis
Rennard, Marvin, St. Louis
Repetto, Albert M., St. Louis
Repp, Theodore J., St. Louis
Reuter, Louis A., St. Louis
Revare, Paul, Kansas City
Revels, Harry, III, St. Louis
Reyes, Jose T., St. Louis
Reyes, Rosendo A., St. Louis
Reynolds, Clarence C., Kansas City
Reynolds, Fred, St. Louis
Reynolds, Garland A., Cape Girardeau
Reynolds, Harry E., Ft. Leonard Wood
Reynolds, James R., Neosho
Rhoades, Arthur B., Kansas City
Rhodes, Euhlan L., Warsaw
Rice, Carl E., Hillsboro
Rice, Earl R., Fort Lauderdale, Fla.
(Member St. Louis Medical Society)
Rice, Huberta K., Brookfield
Richards, Frank O., St. Louis
Richardson, George A., Union
Richardson, Marion W., Kansas City
Richardson, William D., Ghana, W. Africa
(Member Clay County Medical Society)
Richardson, William R., Union
Richert, Robert C., Kansas City
Richman, Elmer, Chesterfield
Richtarsic, Stephen R., St. Louis
Richter, William B., Stockton
Riddell, Richard V., St. Joseph
Ridgeway, William G., St. Louis
Ridings, G. R., Columbia
Ridings, Harold D., Cape Girardeau
Ridzon, Thomas J., St. Charles
Ries, Douglas A., St. Louis
Riffel, Gordon W., Bourbon
Rifkin, Shale M., St. Louis
Riggio, Salvatore N., St. Louis
Rigney, Levi M., Springfield
Riley, Charles T., Richmond
Riley, John J., St. Louis
Riley, Joseph P., Jr., Parthenon, Ark.
(Member Jackson County Medical Society)
Riley, William H., St. Louis
Riller, Lowell E., Kansas City
Rinck, Edward C., Nevada
Ring, Edward M., St. Louis
Ringo, Henry J., St. Louis
Ritchie, Frances R., St. Louis
Ritter, Hubert A., St. Louis
Ritter, Paul J., St. Louis
Ritter, Raymond A., Cape Girardeau
Ritterbusch, James K., Fulton
Rizzo, Adolfo E., St. Louis
Roach, Edward A., St. Charles
Roark, Glenn E., Columbia
Roberts, Grosvenor G., Kansas City
Roberts, Harold K., Clayton
Roberts, Harold M., Kansas City
Roberts, John P., Kirkwood
Roberts, John R., St. Louis
Roberts, L. Marvin, Kansas City
Roberts, Paul A., Sweet Springs
Roberts, Phyllis Grant, St. Joseph
Robertson, Frank G., St. Louis
Robertson, William D., Poplar Bluff
Robertson, William D., Kansas City
Robichaux, Eugene B., Excelsior Springs
Robins, Eli, St. Louis
Robinson, Arthur W., Kansas City
Robinson, Edith C., St. Louis
Robinson, E. Kip, Kansas City
Robinson, George G., Humansville
Robinson, G. Wilse, Jr., Kansas City
Robinson, John A., Edgerton
Robinson, Van M., Kansas City
Robinson, William J., Leawood, Kan.
(Member Jackson County Medical Society)
Robison, James T., Jr., Kansas City
Roblee, Melvin A., St. Louis
Roche, Maurice B., St. Louis
Rodeman, John M., Sedalia

Rodes, Ned D., Mexico
Rodgers, Elrie P., Columbia
Rodgers, George H., Overland Park, Kan.
(Member Jackson County Medical Society)
Rodgers, Samuel U., Kansas City
Rodriguez, Ubaldo R., St. Louis
Roehrs, Marvin E., Marshall
Rogers, Cyril H., St. Louis
Rogers, Donald B., Lincoln, Nebr.
(Member Ozarks Medical Society)
Rogers, John A., St. Louis
Rogers, John T., St. Joseph
Rogers, Robert L., Kansas City
Rohlfing, Edwin H., St. Louis
Rohlfing, Walter H., St. Louis
Roller, Merrill J., Hannibal
Rollins, Harry D., Winona
Rolufs, Lloyd S., Kirkwood
Rolwing, E. Charles, Charleston
Ronald, Douglas C., Butler
Roodman, Herman J., Overland
Roos, Albert, St. Louis
Roper, Charles L., St. Louis
Roper, Stanley D., Ozark
Rose, Charles W., Kansas City
Rose, Dalton K., St. Louis
Rosecan, Marvin, St. Louis
Rosen, Max, Springfield
Rosenbaum, Harry D., St. Louis
Rosenbaum, Herbert E., St. Louis
Rosenbaum, Louis J., University City
Rosenfeld, Henry, St. Louis
Rosenstein, Daniel L., St. Louis
Rosenthal, Irwin I., St. Joseph
Ross, Gilbert, Jr., Columbia
Rost, William B., St. Joseph
Roter, Alexander M., St. Charles
Roth, John J., St. Louis
Rother, Paul H., St. Charles
Rothman, David, St. Louis
Rothweiler, Robert J., St. Louis
Roufa, Joseph F., St. Louis
Roulhac, George E., St. Louis
Rouse, David M., Mexico
Rouse, Ernest T., St. Louis
Rowlette, Avery P., Moberly
Roy, Joseph A., Jennings
Royce, James J., Sarcoxie
Royce, Robert K., St. Louis
Royse, Roy P., Sullivan
Royston, Grandison D., Hope, Ark.
(Member St. Louis Medical Society)
Rubenstein, Melvin, St. Louis
Rubin, Robert, St. Louis
Rubin, Sidney, Kansas City
Rubnitz, Leon H., Kansas City
Rudi, Herbert J., St. Louis
Rufe, John R., Kansas City
Ruff, T. Eugene, Poplar Bluff
Ruhling, Rudy, St. Louis
Rusan, Thomas E., St. Louis
Russell, Barbara E., Rolla
Russell, Earl D., Springfield
Russell, Garth, Columbia
Russell, Herman E., Berkley
Russell, James L., Kansas City
Russell, Joseph P., Jefferson City
Russell, Robert K., Raytown
Rutledge, John F., Festus
Rutledge, William J., Campbell
Ryan, John B., Washington
Ryan, John H., St. Joseph
Ryan, John J., Clayton
Ryan, Robert E., St. Louis
Ryan, Robert J., Tucson, Ariz.
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Ryan, Thomas J., Jefferson City

S

St. John, Thomas C., St. Louis
Sabates, Felix N., Kansas City
Sachar, Leo A., St. Louis
Saferstein, Lester, Kansas City
Sala, Jose M., Springfield
Saladino, Anthony, Kansas City
Sale, Llewellyn, Jr., St. Louis
Salisbury, William J., St. Louis
Salmon, Mickey L., St. Louis
Sammons, Harry C., St. Louis
Samuelson, Edward A., Kansas City
Sanders, Donald C., Kansas City
Sanders, George E., Excelsior Springs
Sanders, Harmon U., Jr., Lawrence, Kan.
(Member Jackson County Medical Society)
Sanders, Jack S., Jefferson City
Sanders, Robert D., St. Louis
Sanders, Theodore E., St. Louis
Sanders, William F., Kansas City
Sandow, Theodore, Jr., Kansas City
Santanello, William M., St. Louis
Santiago, Miguel, St. Louis
Santoro, Carlos G., Kansas City
Saper, Philip, Lee's Summit
Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse
Sasano, Joseph R., Jr., Kansas City
Sato, George, St. Louis
Satterfield, James H., St. Louis
Satterfield, Val B., Chesterfield
Sauer, Donald C., University City
Sauer, Gordon C., Kansas City
Sauer, W. Nicholas, St. Louis
Saunders, Everett L., Independence
Sawyer, Floyd E., Kansas City
Sawyer, James, St. Louis
Scales, Margaret B., Kansas City
Scanlon, Robert C., Springfield
Schaan, Robert C., St. Louis
Schaef, Mary L., St. Louis
Schaefer, George J., St. Louis
Schaefer, Glennon S., Jr., St. Louis
Schaeffer, Edward M., Springfield
Schaerer, Jacques P., St. Louis
Schaerrer, William C., Kansas City
Schaper, Ernest H., St. Louis
Schattyn, Martyn, St. Louis
Schechter, Samuel E., St. Louis
Scheele, Paul M., St. Louis
Scheer, George E., St. Louis
Scheff, Harold, St. Louis
Schengber, John S., St. Louis
Schertz, Truman B., N. Kansas City
Scheuber, Charles, Columbia
Schewe, Elmer J., Jr., Columbia
Schierman, William D., Clayton
Schiffmacher, Jack E., Kansas City
Schillie, Gene A., Kansas City
Schlansky, Seymour M., St. Louis
Schlenker, Lawrence, St. Louis
Schluer, Elmer P., St. Louis
Schmidt, C. Robert, Kansas City
Schmidt, Charles A., Gerald
Schmidt, Edwin H., St. Louis
Schmidt, Edmund M., St. Louis
Schmidt, Herbert J., Joplin
Schmidt, J. H., Jefferson City
Schmiemeier, Roy H., St. Louis
Schneider, Sam, St. Louis
Schneider, Thomas A., St. Charles
Schoeberl, Cletus B., Joplin
Schoeck, Albert F., St. Louis
Schoedinger, George R., III, St. Louis
Schoentag, John S., St. Louis
Schoolman, Arnold, Kansas City
Schopp, Alvin C., St. Louis
Schottman, Gerhard W., Jr., Kansas City
Schranck, Charles R., St. Louis
Schroeder, Henry A., W. Brattleboro Vt.
(Member St. Louis Medical Society)
Schroff, Carle H., Springfield
Schuessler, Wolfgang P., St. Louis
Schuetz, Alfred, St. Charles
Schulte, Gregory A., Joplin
Schultz, E. Robert, St. Louis
Schultz, Irwin, St. Louis
Schultz, Loraine E., Branson
Schultz, Samuel, St. Louis
Schutz, Carl B., San Marcos, Calif.
(Member Jackson County Medical Society)
Schutz, Richard B., Kansas City
Schwartz, Eugene J., Springfield
Schwartz, Frederick O., St. Louis
Schwartz, Henry G., St. Louis
Schwartz, John T., Columbia
Schwartz, Melvin M., St. Louis
Schwartzman, Bernard, St. Louis
Schweiss, John F., St. Louis
Schweitzer, Fred C., Jr., Springfield
Sciortino, Gaspare, St. Louis
Sciortino, John S., St. Louis
Scokel, Paul W., III, St. Charles
Scopelite, Joseph A., St. Louis
Scorse, Sidney W., Joplin
Scott, E. David, Jefferson City
Scott, Elwin P., St. Louis
Scott, Horace W., St. Louis
Scott, Wendell G., St. Louis
Seabaugh, Dayton I. L., Jackson
Seabaugh, Loy R., Cape Girardeau
Seabaugh, Oda L., Cape Girardeau
Seabaugh, Ottis D., Webster Groves
Seabaugh, William O. L., Cape Girardeau
Seabold, John A., University City
Seddon, John W., St. Louis
See, William B., Columbia
Seeley, James J., St. Louis
Seely, Clark W., Kansas City
Seevers, Ruth, Osceola
Seib, George A., St. Louis
Sells, Kenneth J., Kansas City
Senhauser, Donald A., Columbia
Senn, Emmett J., Herculaneum
Senne, Herbert C., St. Joseph
Sennott, John S., Jefferson City
Senor, Samuel E., St. Joseph
Senturia, Ben H., St. Louis
Senturia, Hyman R., St. Louis
Serkes, Kenneth D., St. Louis
Sertl, John D., St. Louis
Sevastianos, Aristides E., St. Louis
Sevin, Omar R., Rockhall, Md.
(Member St. Louis Medical Society)
Sewell, Minor F., Kansas City
Sexton, Daniel L., St. Louis
Sexton, Elmer E., St. Louis
Shackelford, Horace H., St. Louis
Shah, Anwar, St. Louis
Shahan, Philip T., St. Louis
Shalet, Malcolm F., Kansas City
Shanahan, Mary Patricia, Joplin
Shaner, John F., St. Louis
Shank, Robert E., St. Louis
Shapiro, Herbert N., St. Louis
Shapiro, Lazare M., Kansas City
Shapleigh, John B., St. Louis
Sharp, Austin R., St. Louis
Shatz, Burton A., St. Louis
Shaw, Carvel T., Hermann
Shaw, William J., Fayette
Shaw, William J., Jr., Fayette
Shea, James G., Gerald
Sheahon, John A., Kansas City
Shecter, Nathan, Kansas City
Sheets, John S., St. Louis
Sheets, Martin E., Chesterfield
Sheffield, William, St. Louis
Shelden, Russell D., Kansas City
Shell, William C., Sikeston
Shelton, Earl W., St. Louis
Shelton, Edward O., Eldon
Shen, Jerome T. Y., St. Louis
Sheppard, Lee C., Jr., Columbia
Sherard, Julius C., St. Louis
Sheridan, Edmund R., St. Louis
Sherman, Alfred I., St. Louis
Sherry, Sol, St. Louis
Sherwin, Charles S., St. Louis
Shevlin, Charles F., St. Joseph
Shieber, William, St. Louis
Shields, J. B., St. Louis
Shifrin, Alexander, Kansas City
Shipp, Robert H., Hohenwald, Tenn.
(Member Johnson County Medical Society)
Shireman, Kenneth L., Kansas City
Shires, Edward B., Kansas City
Shirey, Arnold G., Hayti
Shobe, Frank O., St. Louis
Shockley, Clarence J., Kansas City
Shofstall, Charles K., Kansas City
Shopfner, Charles E., Kansas City
Shoss, Milton, Cape Girardeau
Shreffler, Algie R., Tavernier, Fla.
(Member St. Louis Medical Society)
Shuey, Herbert H., Kansas City
Shull, George D., Jefferson City
Shuman, Joseph S., St. Louis
Shumate, L. St. Clair, Reeds Spring
Shuter, Eli R., St. Louis
Shyken, Herman, St. Louis
Shypper, Moses J., Kansas City
Siceluff, Joseph G., Springfield
Siegel, Carl D., Sedalia
Siegel, Peter V., Washington, D. C.
(Member Pettis County Medical Society)
Siemers, George E., St. Louis
Siesener, Herbert H., St. Louis
Sievers, Edward F., Hollywood Beach, Fla.
(Member St. Louis Medical Society)
Sights, Warren P., Jr., Columbia
Sigmund, Charles A., St. Ann
Signorelli, Andrew J., St. Louis
Silberman, Henry K., Columbia
Silsby, Don J., Springfield
Silsby, Harry D., Springfield
Silver, Bernd, St. Louis
Silver, Herbert, St. Louis
Silverberg, Charles, St. Louis
Silvermintz, Saul D., Ladue
Silverstein, Martin E., Kansas City
Simmons, Donald D., Kansas City
Simmons, Earl M., Jr., Columbia
Simms, Otho M., St. Charles
Simon, David L., St. Louis
Simon, Jerome I., St. Louis
Simon, Nathan M., Clayton
Simon, Sanford, Shawnee Mission, Kan.
(Member Jackson County Medical Society)

Simpson, Albert P., Springfield
Simpson, Emerson L., Springfield
Simril, Wayne A., Clayton
Sims, William A., Jr., St. Louis
Sinclair, Alexander B., Kansas City
Singleton, John M., III, Kansas City
Sisk, James C., St. Louis
Sisson, Richard G., St. Louis
Skeffington, Mary Jane, St. Louis
Skilling, David M., Jr., St. Louis
Skillman, Robert K., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Skimming, W. Lee, St. Louis
Skinner, John S., St. Louis
Skinner, John T., Kansas City
Sklenar, Donald E., St. Joseph
Slankard, J. Edward, Kansas City
Slaughter, Carl R., N. Kansas City
Slaughter, Shelby C., Fredericktown
Slentz, Edwin L., Kansas City
Slentz, William A., Kansas City
Slickman, Robert A., Kansas City
Slotkin, Robert J., St. Charles
Sly, William S., St. Louis
Smiley, William, St. Louis
Smit, Herbert M., St. Louis
Smith, Arthur B., Kansas City
Smith, Audra B., Sikeston
Smith, Benjamin F., Jr., St. Louis
Smith, C. Franklin, Willow Springs
Smith, C. Souter, Springfield
Smith, Carl C., Moberly
Smith, Dale C., Kansas City
Smith, Dermott, St. Louis
Smith, Edwin I., Kansas City
Smith, Garland F., St. Louis
Smith, George E., St. Louis
Smith, Grafton A., Columbia
Smith, Herbert P., St. Louis
Smith, Hubert E., Kansas City
Smith, Hugh R., St. Louis
Smith, Ira T., Kansas City
Smith, J. Earl, St. Louis
Smith, James O., Clinton
Smith, Jason N., Jr., Columbia
Smith, Joe R., Columbia
Smith, John R., St. Louis
Smith, Katherine W., Kansas City
Smith, Kathleen, St. Louis
Smith, Kenneth R., Jr., St. Louis
Smith, Milton, St. Louis
Smith, Morton E., St. Louis
Smith, Norris W., St. Louis
Smith, Othello D., Mission, Kan. (Member Jackson County Medical Society)
Smith, Robert S., St. Louis
Smith, Robert W., Marceline
Smith, Roland T., Joplin
Smith, Rollin H., West Plains
Smith, Sidney E., St. Louis
Smith, Ted P., Bowling Green
Smith, Wallace B., Independence
Smith, William J., Windsor
Smith, William R., Carthage
Smolik, Edmund A., St. Louis
Smoller, Martin B., St. Charles
Smull, Ned W., Kansas City
Sneid, Philip, Kansas City
Snider, Wilbur R., Independence
Snyder, Edward N., Los Angeles, Calif. (Member St. Louis Medical Society)
Somers, John E., Columbia
Sommer, Conrad S., St. Louis
Sommer, Ross B., St. Louis
Somoza, Jose, Kansas City
Soto, Alberto A., Affton
Soule, Samuel D., St. Louis
Spafford, Allen L., Kansas City
Spalding, David L., Springfield
Spalding, Donald G., Fort Leonard Wood
Spalding, Wilber B., Plattsburg
Spalding, Wilber B., Jr., Kansas City
Sparkman, Thomas C., Cape Girardeau
Spears, Charles A., Branson
Spears, Joe L., Cabool
Spector, Gene W., St. Louis
Spelman, Archibald E., Smithville
Spencer, Andrew D., St. Louis
Spencer, Donald M., Independence
Speno, Angelo A., St. Louis
Spies, Barbara J., Kansas City
Spinzig, Edgar W., Kirkwood
Spiro, Joel M., St. Louis
Spitz, Milton A., Milwaukee, Wisc. (Member St. Louis County Medical Society)
Spoeneman, Marlin C., St. Louis
Spoenemann, Walter H., St. Louis
Sportsman, Weldon L., Kansas City
Spratt, John S., Jr., Columbia
Spurgeon, Milo J., Columbia
Spurny, Otto M., Kansas City
Stacey, Wallace R., Independence
Stacy, Winton T., St. Joseph
Staehle, Melvin E., St. Louis
Stafford, Walter R., St. Louis
Stager, David R., Fort Leonard Wood
Staggs, William A., Kansas City
Staley, Harry R., Kansas City
Stallard, Donald J., St. Joseph
Stamp, Warren C., St. Louis
Stanfield, Ned M., Jr., St. Louis
Stansbrough, Raymond A., Normandy
Staple, Tom W., St. Louis
Starke, Helen, Kansas City, Kan. (Member Jackson County Medical Society)
Starkloff, Gene B., St. Louis
Starkloff, Max, St. Louis
Statland, Harry, Kansas City
Statland, Morris, Kansas City
Staton, R. Hamilton, Carrollton
Stauffacher, C. Gordon, Sedalia
Stauffer, Harry B., Jefferson City
Steele, Jack T., St. Louis
Steele, James C., Jr., Hannibal
Steffen, Lawrence F., Kansas City
Stegman, Elmer G., Raytown
Stein, Arthur H., Jr., St. Louis
Stein, Harry J., St. Louis
Stein, Joseph W., Kansas City
Stein, Leonard P., St. Louis
Stein, Martin F., St. Louis
Steinbeck, Herbert D., Chappaqua, N. Y. (Member Franklin-Gasconade-Warren County Medical Society)
Steinbeck, Herbert F., Montgomery City
Steinberg, Franz U., St. Louis
Steiner, Alexander J., St. Louis
Stelle, Charles W., Kansas City
Stelmach, Walter J., Kansas City
Stephens, LeRoy J., St. Louis
Stephens, Louis F., St. Louis
Stephens, William A., St. Louis
Stephenson, Hugh E., Jr., Columbia
Stergen, Nick E., St. Louis
Sterkel, Richard L., St. Louis
Sterling, John A., Kirkwood
Stevens, Edward M., St. Joseph
Stevens, Robert W., St. Louis
Stewart, Frances H., St. Louis
Stewart, John W., St. Louis
Stewart, Mark A., St. Louis
Stewart, Robert B., Springfield
Stewart, Robert H., Sedalia
Stewart, R. Wendell, Springfield
Stewart, Wendell K., Cape Girardeau
Stewart, William J., Columbia
Stickle, Arthur W., St. Louis
Stickler, Ralph O., Kirksville
Stindel, Charles E., St. Louis
Stockton, Raymond W., Kansas City
Stockwell, A. Lloyd, Kansas City
Stohr, Paul E., St. Louis
Stokes, James M., St. Louis
Stolar, Jacob, St. Louis
Stone, Raymond F., Kansas City
Stoneman, William, III, St. Louis
Stotts, Charles S., Fredonia, Kan. (Member Jackson County Medical Society)
Stoy, Robert P., Columbia
Stratemeier, Edward H., Kansas City
Stratman, Clarence A., N. Kansas City
Strauchen, Gilbert W., Key Largo, Fla. (Member St. Louis County Medical Society)
Strauss, Arthur E., St. Louis
Strauss, Carl F., Kansas City
Streetor, Roderick D., St. Louis
Strehlman, Benjamin G., Union
Stribling, Thomas L., Independence
Stricker, Emil A., St. James
Stricker, Harold C., Jefferson City
Strobach, Robert L., Butler
Strominger, Donald B., St. Louis
Stromsdorfer, Paul G., St. Louis
Strong, Richard M., Hannibal
Stroud, Malcolm H., St. Louis
Stryker, Garold V., Venice, Fla. (Member St. Louis Medical Society)
Stryker, William I., Ladue
Stuart, Byron M., Boonville
Stuart, Daniel D., Brunswick
Stuart, Wallace, St. Louis
Stuebner, Roland W., St. Louis
Stuerman, Lawrence G., Louisiana
Stufflebam, Robert E., Springfield
Stumpf, Stanley E., Lebanon
Sturtevant, Harwood N., Springfield
Stutsman, Albert C., St. Louis
Suba, Antonio R., St. Louis
Sudholt, Alfred F., Jr., St. Louis
Sugarbaker, Everett D., Jefferson City
Sullivan, Clement J., St. Louis
Sullivan, William W., Glendale
Summers, Caldwell B., Kansas City
Summers, John B., St. Louis
Summers, Joseph S., Jr., Jefferson City
Summers, Thomas F., St. Louis
Sunderman, Raymond C., St. Louis
Sundstrom, Frank D., Springfield
Sunshine, Herbert, St. Louis
Susanka, William D., St. Louis
Susman, Irvin C., St. Louis
Susman, Noah, St. Louis
Sutter, Richard A., St. Louis
Sutton, Richard L., Jr., Kansas City
Swafford, Owen J., Senath
Sweany, Henry C., Mt. Vernon
Sweet, Herbert C., Webster Groves
Sweets, Henry H., Jr., Hannibal
Sweiger, James H., Maysville
Swisher, Robert C., Kansas City
Switzer, Clyde, Overland Park, Kan. (Member Jackson County Medical Society)
Swope, Joseph A., Webster Groves
Sword, Richard O., Kansas City
Sydow, Henry A., Fulton
Szabados, Ernest D., Independence
Szymanski, Stanley R., Macon

T

Tadlock, Baxter W., St. Joseph
Talbert, Clifford R., Jr., Cape Girardeau
Tanaka, George M., St. Louis
Tanner, Robert H., Jefferson City
Tapp, Ernest M., Poplar Bluff
Tapper, Stephen M., St. Louis
Tarrasch, Ernest L., Springfield
Tarson, Solomon S., Overland Park, Kan. (Member Jackson County Medical Society)
Tarver, Quinton, Kennett
Tarvydas, Francis, Edina
Tashma, Sigmund, St. Louis
Tasker, Charles B., Kansas City
Tatkow, Robert W., St. Louis
Taussig, Barrett L., St. Louis
Taute, Herman, St. Louis
Taveras, Juan M., St. Louis
Taylor, Eugene D., St. Louis
Taylor, Eugene T., St. Louis
Taylor, Helen L., St. Louis
Taylor, Leo T., Neosho
Taylor, Leon A., Jefferson City
Taylor, Van W., Bonne Terre
Taylor, William E., Springfield
Teare, Max E., Kansas City
Teiber, Frederick W., St. Louis
Tellez, Edward R., Fulton
Templeton, Arch W., Columbia
Tendai, Mark M., Kirksville
Tenpenny, J. W., Poplar Bluff
Ternberg, Jessie L., St. Louis
Terrill, Robert S., Kansas City
Terry, James W., Jr., Cape Girardeau
Tess, Melvin J. H., St. Louis
Tesson, James A., Kansas City
Thale, Thomas, St. Louis
Theel, Otto W., Jr., Kansas City
Thiel, J. Allen, St. Louis
Thiele, Belmont R., St. Louis
Thiele, George H., Shawnee Mission, Kan. (Member Jackson County Medical Society)
Thiele, Otto K., St. Charles
Thierauf, Charles G., St. Louis
Thies, Jerome H., Osceola
Thoma, George E., Jr., St. Louis
Thomas, Charles S., St. Louis
Thomas, Christopher Y., Kansas City
Thomas, Forrest, St. Joseph
Thomas, Horace E., Columbia
Thomas, Lewis J., Jr., St. Lous
Thomas, Thomas C., Buckner
Thomasson, David D., Springfield
Thomasson, Mary W., St. Louis
Thomasson, Robert E., St. Louis
Thompson, Charles L., Kansas City
Thompson, Emma A. B., Columbia
Thompson, F. Gregg, Jr., St. Joseph
Thompson, F. Gregg, III, St. Joseph

Thompson, Ian M., Columbia
Thompson, J. William, St. Louis
Thompson, Lawrence D., St. Louis
Threlkeld, William L., Jr., Leopoldville, Congo
(Member Jackson County Medical Society)
Throgmorton, Howard B., Sikeston
Thurber, Claude M., Windsor
Thurman, Hill C., Parkville
Thurmann, Manfred, St. Louis
Thym, Henry P., St. Louis
Tibbs, William A., Jr., St. Louis
Tice, Wayne K., Independence
Tichenor, Robert W., St. Louis
Tietjen, Frederick O., Jefferson City
Tiffany, D. E., Mountain View
Tillman, Mary A. T., St. Louis
Tillman, Walter W., Jr., Springfield
Tindall, Robert N., St. Louis
Tinsley, John C., Jr., Columbia
Tiongson, Porfirio M., St. Louis
Tippett, Jack C., St. Louis
Titmarsh, J. B., Jr., Cedar Rapids, Iowa
(Member Boone County Medical Society)
Titterington, Paul F., St. Louis
Tjoflat, Oliver E., St. Louis
Tobias, Norman, St. Louis
Todd, Paul C., Marceline
Tombridge, Thomas L., Springfield
Tomlinson, William L., St. Louis
Tonelli, George L., St. Louis
Torin, Bernice A., University City
Tosh, John W., Poplar Bluff
Totten, Frederick E., Kansas City
Tovar, Manuel, St. Joseph
Towers, Orville W., St. Charles
Townsend, Arthur M., III, St. Louis
Townsend, James A., Clayton
Townsend, Vincent F., Clayton
Tracy, Herbert A., Belton
Treiman, Robert C., St. Louis
Tremain, Ernest E., Maplewood
Tremain, Irl G., St. Louis
Trigg, Joseph F., St. Louis
Trimble, George X., Kansas City
Triplett, Daniel A., Ellsworth A.F.B., S. D.
(Member Clay County Medical Society)
Tripodi, Anthony M., Seal Beach, Calif.
(Member St. Louis Medical Society)
Trippe, Harrison C., Kansas City
Triska, Roland A., St. Louis
Troeh, Melvin R., Independence
Trotter, Francis O., Jr., St. Louis
Trotter, W. Yates, Springfield
Trowbridge, Barnard C., Kansas City
Trowbridge, Ellsworth H., Jr., Kansas City
Trueblood, Alva C., Jr., St. Louis
Trugly, Edith S., St. Louis
Trunko, Leo, St. Louis
Tsang, John L. K., Springfield
Tsifutis, Argyrios, Brentwood
Tucker, Eugene F., St. Louis
Tucker, George L., St. Louis
Tull, Frank, Sikeston
Tuma, Arthur T., Poplar Bluff
Tureen, Louis L., St, Louis
Turner, C. M., St. Louis
Turner, Glenn O., Springfield
Turner, James H., Poplar Bluff
Turner, James K., St. Louis
Turner, Kirby L., Potosi
Turner, Ronald M., Independence
Turner, Rush, St. Louis
Turner, William F., Poplar Bluff
Tutera, Dominic F., Kansas City
Tuthill, Herbert, Kansas City
Tuttle, Jay F., Fulton
Twedell, Donald L., St. Louis
Twin, Edward J., Kansas City
Twyman, Richard A., Kansas City
Tygett, Glenn J., Cape Girardeau
Tygett, Joseph N., Cape Girardeau

U

Uhlemeyer, Henry A., St. Louis
Ulett, George A., St. Louis
Ulett, Pearl C., St. Louis
Underwood, Dick H., Kansas City
Underwood, Harry A., Kansas City
Underwood, Johnson, Jr., Kansas City
Underwood, Ross H., Kansas City
Unger, Harold, Kansas City
Ungvari, Joseph C., St. Louis
Upsher, Albert E., Kansas City
Urban, Edgar D., Sikeston
Utley, James H., St. Louis
Utley, Joe R., St. Louis
Utterman, William F., Perryville

V

Vacca, Joseph B., St. Louis
Vail, A. Denton, Springfield
Valach, Frank J., Brentwood
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Van Buskirk, William C., Kansas City
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Vandover, John T., St. Louis
Van Dyke, Elmer H., Sedalia
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Van Leeuwen, G., Columbia
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(Member St. Louis Medical Society)
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Van Peenen, Hubert J., Columbia
Vatterott, Paul B., St. Louis
Vaughan, J. Russell, St. Louis
Vaughn, Arthur N., St. Louis
Vaughn, James W., Kansas City
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Venable, H. Phillip, St. Louis
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Virant, John A., St. Louis
Virden, Herbert, Kansas City
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Vitale, Nicholas S., St. Louis
Vitt, Alvin E., St. Louis
Vitt, Edwin F., St. Louis
Viviano, Joseph G., St. Louis
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Von Kaenel, Joseph E., St. Louis
Voorhees, Carroll D., Platte City
Votaw, Robert E., St. Louis
Voth, Harold W., Kansas City
Vournas, Christopher G., St. Louis

W

Wacker, Leo L., St. Louis
Waddell, Kenneth E., Springfield
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Wagenbach, William F., St. Louis
Waggoner, Charles M., Columbia
Waggoner, Sharon E., St. Joseph
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Wallace, Hilen K., Scottsdale, Ariz.
(Member Buchanan County Medical Society)
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Walsh, Theodore E., St. Louis
Walsh, Thomas J., St. Louis
Walter, Archie L., Sedalia
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Walter, William L., St. Louis
Walters, Harold E., St. Louis
Walters, Henry W., St. Louis
Walters, John H., Columbia
Walters, Laura, Columbia
Walters, William H., St. Louis
Walterscheid, John H., Hannibal
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Walton, Franklin E., St. Louis
Walton, Marion C., Mountain View
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Warner, George K., Kirkwood
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Warres, Herbert L., Springfield
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Washington, Edward L., Columbia
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Waterfield, Jim R., Springfield
Waterman, Franklin M., Liberty
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Waters, Hugh R., St. Louis
Watkins, George L., Jr., Farmington
Watson, Cecil L., Marshall
Watson, Ethel, Independence
Watson, Trevor F., Columbia
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Waxman, David, Kansas City
Waxman, Jane Z., Kansas City
Wayland, Thomas A., Camdenton
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Webb, Joan L., Columbia
Webb, Leslie R., Jr., Springfield
Webb, Marion A., St. Louis
Webb, Paul B., St. Louis
Webb, Paul B., Jr., St. Louis
Webb, Paul K., St. Louis
Weber, J. R., St. Louis
Weber, Sol, St. Louis
Weber, William K., Bridgeton
Weed, Randal W., St. Joseph
Weeks, George R., Cape Girardeau
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Weigensberg, Irving J., St. Louis
Weiler, Thomas J., St. Louis
Weinand, Ernest E., St. Joseph
Weinel, Francis G., St. Louis
Weinhaus, Robert S., St. Louis
Weinsberg, William C., St. Louis
Weir, Don C., St. Louis
Weir, Royal A., St. Louis
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Weisbrod, Wilfred B., St. Louis
Weisman, Renate D., St. Louis
Weisman, Sol, St. Louis
Weiss, James M. A., Columbia
Weiss, Stuart, St. Louis
Weitman, Maximiliam, St. Louis
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Wells, James A., Kansas City
Wells, John H., Kansas City
Welsh, Laurence C., St. Louis
Weltscheff, Christo A., Kansas City
Wempe, G. Raymond, Maryville
Wenneker, Alvin S., St. Louis
Wennerman, Sam F., St. Louis
Wentzel, Louis R., St. Louis
Werner, Dean F., N. Kansas City
Werner, Franklin C., Kansas City
Werner, William A., St. Louis
Wessler, Stanford, St. Louis
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Westerman, Henry C., St. Louis
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(Member Jasper County Medical Society)
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Wheeler, John H., Kansas City
Wheeler, Paul C., Columbia
Wheeler, Robert L., Harrisonville
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White, Charles H., Kansas City
White, George A., Kansas City
White, James S., Kansas City
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White, Newton B., St. Louis
White, Orville O., St. Louis
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Williams, John M., Liberty
Williams, John W., Oak Grove
Williams, John W., Springfield
Williams, John W., Jr., Springfield
Williams, Joseph C., Jr., Kansas City
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Williams, Robert D., Smithville
Williams, Robert S., Mexico
Williams, Roland D., Kansas City
Williams, Starks J., Kansas City
Williams, Thomas A., Osceola
Williams, Vincent T., Kansas City
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Williamson, Joseph R., St. Louis
Williamson, Walter E., St. Louis
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Willman, Vallee L., St. Louis
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Wilson, Roy E., Springfield
Wilson, Vernon E., Columbia
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Wilucki, Melvin R., St. Louis
Wimmer, Warren J., St. Louis
Windmiller, Myrl E., Columbia
Windsor, Charles E., St. Louis
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Winer, Herbert J., Kansas City
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Winokur, George, St. Louis
Winston, Bernard H., Kansas City
Winter, John H., St. Louis
Winter, Tyrus D., St. Louis
Winterer, Roland A., St. Louis
Winterling, Charles A., St. Louis
Winters, Kathleen, St. Louis
Wipfler, Earl J., Jr., St. Charles
Wippo, Edgar W., St. Louis
Wirthlin, Edward H., St. Louis
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Wise, Gordon F., Springfield
Wissmath, Frank S., Clayton
Wissner, Seth, St. Louis
Withers, Orval R., Kansas City
Withrow, John B., Kansas City
Witt, Clyde M., St. Louis
Witt, Frederick W., St. Louis
Witte, Marlys H., St. Louis
Wittgen, Edward M., St. Louis
Wittler, Harry A., St. Louis
Wittmer, Samuel C., Springfield
Wolcott, Lester E., Columbia
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Wolfe, Edward, Ann Arbor, Mich.
(Member St. Louis Medical Society)
Wolff, Harold D., St. Louis
Wolff, Paul G., Cape Girardeau
Wolff, Ray J., St. Louis
Wolfgram, Edwin D., St. Louis
Wollschlaeger, Gertraud, Columbia
Wollschlaeger, Paul, Columbia
Womack, Granville J., Chesterfield
Wommack, Fred L., Crane
Wood, Bennett R., St. Louis
Wood, George F., Fulton
Wood, George H., Carthage
Wood, James A., Clayton
Wood, William W., Springfield
Woodbridge, John H., St. Louis
Woodman, Grey M., Kansas City
Woodruff, Robert A., Jr., St. Louis
Woods, Harold V., Blue Springs
Woods, Ralph E., Clayton
Woods, S. Dwight, Kansas City
Woods, Walton C., Kansas City
Woodward, William W., Independence
Wooldridge, Bart F., Joplin
Wooldridge, Wilfred E., Springfield
Woolf, Ralph B., St. Louis
Woolsey, Robert M., St. Louis
Word, Parker H., St. Louis
Workman, Charles E., Kansas City
Workman, George M., Hermann
Worley, Charles A., Sweet Springs
Wortmann, Robert F., Kansas City
Wotawa, William J., St. Louis
Wray, Rolla B., Nevada
Wright, Earl J., Frederick, Md.
(Member Clay County Medical Society)
Wright, Robert P., Kansas City
Wu, William Q., Kansas City
Wulff, George J. L., Jr., St. Louis
Wurr, Dieter, Arnold
Wurster, W. Joel, Kansas City
Wyatt, Lois C., Kirkwood

Y

Yaeger, Gerald A., St. Charles
Yancey, Daniel L., Springfield
Yang, Jae H., St. Louis
Yanow, Mitchell, St. Louis
Yap, Mardonio J. R., Jennings
Yates, J. Lewis, Mt. Vernon
Yeu-Tsu-Lee, M. D., Columbia
Ylagan, Amando, Jr., St. Louis
Yohe, Ruth M., Kansas City
Yore, Richard W., St. Louis
Yoskit, Harry, Festus
Youll, Donald V., Kansas City
Youmans, Ronald A., Kansas City
Young, Calvin C., Jr., Joplin
Young, James E., Kansas City
Young, Jesse W., Kansas City, Kansas
(Member Jackson County Medical Society)
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Young, Robert B., Rolla
Young, Robert H., Moberly
Youngblood, James P., Kansas City
Younge, Walter A., St. Louis
Younger, Anita, St. Louis
Younger, Ernest, St. Louis
Yuan, Louis S. K., St. Louis
Yuen, Pun Fai, Columbia

Z

Zacharias, David L., Kansas City
Zahn, Robert L., Springfield
Zahony, Ivan, Prairie Village, Kan.
(Member Jackson County Medical Society)
Zahorsky, Theodore S., St. Louis
Zeffren, Joel L., St. Louis
Zekert, Horst, St. Louis
Zellermayer, Jacob, Kansas City
Ziegelmeyer, John S., St. Louis
Ziegler, Anthony, Jr., Vandalia
Zillgitt, George H., St. Louis
Zimmerman, Herbert B., St. Louis
Zimmerman, Joseph A., Kennett
Zingale, Frank G., St. Louis
Zink, Oscar C., St. Louis
Zografakis, George H., St. Louis
Zuckner, Jack, St. Louis
Zukowski, Edward T., Fort Ord, Calif.
(Member St. Louis Medical Society)
Zwart, Claude H., St. Louis
Zwirn, Benjamin H., St. Louis

Roster of Members by County Societies

ADAIR COUNTY
(North Central Counties Medical Society)

ANDREW COUNTY MEDICAL SOCIETY
(Savannah 64485)

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Kelley, Gilbert B., Savannah
Kelley, Ralph R., Savannah

ATCHISON COUNTY
(Northwest Missouri Medical Society)

AUDRAIN COUNTY MEDICAL SOCIETY
(Mexico 65265)

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Bradley, William W., Centralia 65240
Davis, Leonard L., Jr., 1415 S. Morris St.
Dwyer, Thomas L., 119 E. Love St.
Ector, Henry J., 314 S. Trinity St.
Ekern, H. Peter, 1415 S. Morris St.
Epple, Kathryn C., 502 E. Monroe St.
Epple, Lawrence K., 502 E. Monroe St.
Gantt, Ernest S., Jr., 105a W. Monroe St.
Garcia, Charles L., Mexico
Jolly, Benjamin N., 112 N. Clark Ave.
Jolly, William H., 112 N. Clark Ave.
Kallenbach, Glen P., 321 N. Washington St.
Lankford, Harold D., 117 E. Monroe St.
O'Brien, Harry F., Mexico
Rodes, Ned D., Mexico
Rouse, David M., 212 E. Monroe St.
Wallace, Edgar S., 210 E. Monroe St.
Williams, Robert S., Kemper Bldg.
Ziegler, Anthony, Jr., Vandalia 63382

BARRY COUNTY
(Ozarks Medical Society)

BARTON-DADE COUNTY MEDICAL SOCIETY

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Bauer, Harold A., Lockwood 65682
Bickel, Vern T., Lamar 64759
Cain, Alvin R., Lamar 64759
Carroll, Thomas W., Lamar 64759
Guldner, Edmond, Lamar 64759
McNeel, Lee A., Jr., Greenfield 65661

BATES COUNTY
(West Central Missouri Medical Society)

BENTON COUNTY MEDICAL SOCIETY

Logan, James A., Warsaw 65355

BOLLINGER COUNTY
(Unorganized)

BOONE COUNTY MEDICAL SOCIETY
(Columbia 65201)

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Allen, Joseph E., Professional Bldg.
Allen, William C., 508 W. Briarwood Lane
Almond, Carl H., 807 Stadium Rd.
Altman, Harold, 2100 E. Broadway
Anderson, Ivan A., 606 Medavista
Anderson, Philip C., 807 Stadium Rd.
Anderson, Thomas R., 822 Yale St.
Anderson, William H., 2002 Valley View Dr.
Arnold, Richard C., P. O. Box 53
Asel, Norman D., 807 Stadium Rd.
Baker, A. Sherwood, 807 Stadium Rd.
Baker, James M., 16 S. 10th St.
Battersby, Richard S., Candle Light Lodge
Bingham, Hal G., 807 Stadium Rd.
Black, Samuel P. W., 300 S. Glenwood St.
Brooke, Clement E., 901 Edgewood Ave.
Brukardt, Diane, Student Health Service
Bruner, Claude R., 909 University Ave.
Buesseler, John A., 807 Stadium Rd.
Bumgarner, James E., 1504 E. Broadway
Bumgarner, Roger W., Route 1
Burns, Thomas W., 310 E. Brandon Rd.
Bynum, William R., 1504 E. Broadway
Chalkley, Judson I., Boone County Hosp.
Chapman, Charles L., 313 E. Briarwood
Cheek, Charles W., 113 W. Broadway
Chiasson, E. Chaille, 109 W. Broadway
Cochran, Donald Q., 1502 E. Broadway
Colwill, Jack M., 1105 S. Glenwood Ave.
Cook, Galen B., 2309 W. Broadway
Cooper, Maurice E., 1000 Wayne Rd.
Cope, James C., 1502 E. Broadway
Crosby, Alice S., 2019 Crestridge Dr.
Culley, Thomas S., 807 Stadium Rd.
Darnell, Thomas F. B., Doctors Clinic Bldg.
Davis, David, 801 Crestland Ave.
Denninghoff, James C., 201 W. Broadway
Dernoncourt, John E., 807 Stadium Rd.
DeWeese, Marion S., 807 Stadium Rd.
Dexheimer, Frank R., 113 W. Broadway
Dietrich, Karl D., 909 University Ave.
Donegan, William L., Ellis Fischel Cancer Hosp.
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Ferneau, James E., 113 W. Broadway
Froelich, Robert E., 807 Stadium Rd.
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Galeota, William R., 807 Stadium Rd.
Garb, Solomon, 807 Stadium Rd.
Garrett, Glen H., 909 University Ave.
Gaunt, William D., 807 Stadium Rd.
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Griffin, William T., 807 Stadium Rd.
Grunberg, Emile, 411 Bourn Ave.
Hall, David G., 807 Stadium Rd.
Hanna, Fikri M., 708 Hilltop Dr.
Hardwicke, Henry M., Ashland 65010
Harris, Robert J., 2008 Hazelwood Dr.
Ide, Carl H., 600 Laurel Dr.
Jackson, Robert L., 807 Stadium Rd.
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Keown, Kenneth K., 807 Stadium Rd.
Kerr, S. Earl, 1308 Fieldcrest
Kiphart, Richard, 807 Stadium Rd.
Kubin, Milford T., Ellis Fischel Cancer Hosp.
LaChance, Leopold, Centralia 65240
Ladenson, Roland P., 16 S. 10th St.
Landor, John H., 807 Stadium Rd.
Leech, Charles A., 1504 E. Broadway
Leeper, Sidlee W., 1504 E. Broadway
Lewis, Ray B., 1502 E. Broadway
Lindberg, Donald, 902 S. Glenwood
Litton, Lynn O., Route 3
Litwiller, R. W., 1312 W. Broadway
Lodwick, Gwilym S., 208 Ridgeley Rd.
Logue, John T., 1504 E. Broadway
Lohmar, Roland E., 357 Ardennes Circle, Fort Ord, Calif. 93941
Lucas, Fred V., 807 Stadium Rd.
McElroy, Glenn L., 1504 E. Broadway
McEntyre, James M., 807 Stadium Rd.
Mackenzie, James W., 807 Stadium Rd.
Marco, Philip J., 807 Stadium Rd.
Marienfeld, Carl J., 807 Stadium Rd.
Martin, Richard H., 807 Stadium Rd.
Martt, Jack M., 807 Stadium Rd.
Matovich, Violet B., 807 Stadium Rd.
Mayer, William D., 10401 Grosvenor Pl., Rockville, Md. 20852
Mercado, Raul, Jr., 513 Shady Ave. No. 21, Pittsburgh, Pa. 15206
Metzgar, Marshall T., 807 Stadium Rd.
Miller, Leroy J., 1502 E. Broadway
Mitchell, Franklin L., 810 Greenwood Ct.
Moranville, Benedict A., 1504 E. Broadway
Neal, M. Pinson, 807 Stadium Rd.
Overholser, Milton D., 807 Stadium Rd.
Parrish, Henry M., 807 Stadium Rd.
Payne, John W., 1504 E. Broadway
Pearman, Carl C., 923 College Park
Perez-Mesa, Carlos, Ellis Fischel State Cancer Hosp.
Pfefer, Leland U., 1504 E. Broadway
Pickard, Clarence M., 113 W. Broadway
Pingelton, William B., 113 W. Broadway
Plumlee, John E., 807 Stadium Rd.
Pugh, Reginald P., 1008 Hickory Hill Dr.
Rall, Kenneth L., 1121 Danforth Dr.
Ray, C. Thorpe, 807 Stadium Rd.
Ridings, G. R., 810 Yale Ave.
Roark, Glenn E., Student Health Service
Rodgers, Elrie P., Box 157
Ross, Gilbert, Jr., 807 Stadium Rd.
Russell, Garth, 1504 E. Broadway
Scheuber, Charles, 1504 E. Broadway
Schewe, Elmer J., Jr., 1232 Sunset Dr.
Schwartz, John T., 807 Stadium Rd.
See, William B., 1504 E. Broadway
Senhauser, Donald A., 807 Stadium Rd.
Sheppard, Lee C., Jr., 608 Manor Dr.
Sights, Warren P., Jr., 807 Stadium Rd.
Silberman, Henry K., 803 Stadium Rd.
Simmons, Earl M., Jr., 406 Turner Ave.
Smith, Grafton A., 917 Crestland Ave.
Smith, Jason N., Jr., 701 West Blvd. S.
Smith, Joe R., 1506 E. Broadway
Somers, John E., 807 Stadium Rd.
Spratt, John S., Jr., 105 S. Glenwood Ave.
Spurgeon, Milo J., 404 Edgewood Ave.
Stephenson, Hugh E., Jr., 807 Stadium Rd.
Stewart, William J., 909 University Ave.
Stoy, Robert P., 201 W. Broadway
Templeton, Arch W., 1201 Sunset Dr.
Thomas, Horace E., 1504 E. Broadway
Thompson, Ian M., 807 Stadium Rd.
Tinsley, John C., Jr., 16 S. Tenth St.
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VanLeeuwen, G., 807 Stadium Rd.
VanPeenen, Hubert J., 807 Stadium Rd.
Waggoner, Charles M., 201 W. Broadway
Wakerlin, G. E., 406 Turner Ave.
Walters, John H., 11 S. Williams St.
Walters, Laura, 11 S. Williams St.
Washington, Edward L., 1504 E. Broadway
Watson, Trevor F., 1504 E. Broadway
Webb, Joan L., 807 College Park
Weiss, James M. A., 807 Stadium Rd.
Wheeler, Paul C., Univ. of Mo. Med. Center
White, Jefferson E., III, 104 E. Parkway Dr.
Wiggins, Roland L., 408 N. Garth
Wilson, George P., 201 W. Broadway
Wilson, Vernon E., 807 Stadium Rd.
Windmiller, Myrl E., 1504 E. Broadway
Wolcott, Lester E., 2417 Beachview Dr.
Wollschlaeger, Gertraud, 1724 E. Broadway
Wollschlaeger, Paul, 1724 E. Broadway
Yeu-Tsu-Lee, M. D., 807 Stadium Rd.
Yuen, Pun Fai, 9 Westridge Dr.

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(St. Joseph)

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Allaman, John M., 524 Spoonhill Dr. N., Bird Key, Sarasota, Fla.
Ames, Mary B., 2318 Lovers La. 64505
Ames, William H., 902 Edmond St. 64501
Augustine, Robert W., 902 Edmond St. 64501
Beck, Paul M., Kirkpatrick Bldg. 64501
Beheler, Edward M., 2405 Frederick Ave. 64501
Benson, Scott C., 324 N. 6th St. 64501
Berney, Francis J., Kirkpatrick Bldg. 64501
Boteler, George M., 422 W. 47th St., Kansas City 64112
Bristow, Robert B., Physicians & Surgeons Bldg. 64501
Bryant, Sydney L., 902 Edmond St. 64501
Butler, Elza F., 902 Edmond St. 64501
Callman, George, State Hosp. No. 2 64502
Carpenter, George T., 902 Edmond St. 64501
Christ, Martin H., 6106 King Hill Ave. 64504
Craig, Owen W. D., Kirkpatrick Bldg. 64501
Craig, Richard O., 3900 Miller Rd. 64505
Day, Maxwell, 1353 Buchanan Ave. 64501
DuMont, Clement C., 1905 Francis St. 64501
Ferguson, Luther J., 2907 Francis St. 64501
Fisher, Joseph L., 7th & Jule Sts. 64501
Forgrave, John R., 420 N. 8th St. 64501
Forgrave, Leon P., 420 N. 8th St. 64501
Forman, George W., P.O. Box 830 64502
Fuson, Levi H., Kirkpatrick Bldg. 64501
Goldsborough, John B., State Hosp. No. 2 64502
Grant, Claude S., 1302 Faraon St. 64501
Greenberg, Charles, 10669 Rochester Ave., Los Angeles, Calif. 90024
Grimes, Manning E., Kirkpatrick Bldg. 64501
Gunter, Joe S., 902 Edmond St. 64501
Handler, Eric, Physicians and Surgeons Bldg. 64501
Harner, Casper G., 902 Edmond St. 64501
Hayes, Paul W., 902 Edmond St. 64501
Herman, Allen I., Physicians and Surgeons Bldg. 64501
Hughes, Judson M., 1316 Woodhill Rd., Columbia 65201
Hunt, William J., 2600 Pacific St. 64507
Ide, Lucien W., P. O. Box 830 64502
Jimenez, Jose, 1004 Rush Road 64502
Kieber, Robert W., Kirkpatrick Bldg. 64501
Kline, Carlyn M., 17 Stonecrest St. 64506

Kline, Edmund W., 510 Francis St. 64501
Knepper, Paul A., 902 Edmond St. 64501
Kratz, Frederick W., 3653 Briarcliff Rd., North Kansas City 64116
Kulowski, Jacob, 2404 Highly St. 64506
Lee, Carleton H., 1402 Faraon St. 64501
Lehman, Philip C., 510 Francis St. 64501
McDaniel, John R., 902 Edmond St. 64501
McDonald, Wilbur P., 301 N. 8th St. 64501
Maginn, Richard L., 702 Jule St. 64501
Marston, F. James, Jr., 902 Edmond St. 64501
Martin, John N., Physicians and Surgeons Bldg. 64501
Minton, Robert S., 205 Victorian Ct. 64506
Moen, Berwyn H., 902 Edmond St. 64501
Morse, Marvin, 2702 Faraon St. 64501
Mothershead, John L., 2603 Frederick Ave. 64501
Muench, Albert H., Physicians and Surgeons Bldg. 64501
Mundy, Homer F., State Hospital No. 2 64502
Ness, Carl K., 902 Edmond St. 64501
O'Brien, Liam, State Hospital No. 2 64502
O'Connor, William B., 510 Francis St. 64501
Petersen, Harold E., 2401 Frederick Ave. 64501
Pfeffer, Robert I., 1915 N. 29th St. 64506
Pifer, Lawrence H., 1302 Faraon St. 64501
Potter, Caryl A., Jr., Pioneer Bldg. 64501
Potter, Thompson E., 731 Faraon St. 64501
Quintana, Manuel M., 460 S.W. 3rd St., Miami, Fla.
Redmond, William, Corby Bldg. 64501
Riddell, Richard V., 902 Edmond St. 64501
Roberts, Phyllis Grant, 3314 Linda La. 64506
Rogers, John T., 2502 Ashland Ave. 64506
Rosenthal, Irvin I., 2715 Union Ave. 64506
Rost, William B., 2221 N.W. Extension Blvd. 64506
Ryan, John H., 301 N. 8th St. 64501
Senne, Herbert C., 223 N. 7th St. 64501
Senor, Samuel E., 722 Francis St. 64501
Shevlin, Charles F., 902 Edmond St. 64501
Sklenar, Donald E., 228 Illinois Ave. 64504
Stacy, Winton T., 1215 N. 24th St., 64506
Stallard, Donald J., 902 Edmond St. 64501
Stevens, Edward M., 702 Jule St. 64501
Tadlock, Baxter W., 316 W. Noyes St. 64501
Thomas, Forrest, State Hosp. No. 2 64502
Thompson, F. Gregg, Jr., P. O. Box 830 64502
Thompson, F. Gregg, III, 902 Edmond St. 64501
Tovar, Manuel, 13th & Faraon St. 64501
Wadlow, Ernest E., 510 Francis St. 64501
Waggoner, Sharon E., 301 Illinois Ave. 64504
Wallace, Hilen K., 7662 E. Northland Dr., Scottsdale, Ariz. 85251
Weed, Randal W., 702 Jule St. 64501
Weinand, Ernest E., 902 Edmond St. 64501
Whitsell, Ora E., 802 N. 23rd St. 64506
Willman, Charles R., 2405 Frederick Ave. 64501
Willumsen, Henry C., 902 Edmond St. 64501

BUTLER-WAYNE-RIPLEY COUNTY MEDICAL SOCIETY

(Poplar Bluff 63901)

Barbour, Marvin R., Kneibert Clinic
Beecher, Sheldon B., 1517 Rosedale Ave.
Biggs, Fred J., Jr., Kneibert Clinic
Brookreson, Alton D., 700 Hendrix Dr.
Brookreson, Alton F., 321 Oak St.
Caldwell, Fred, Kneibert Clinic
Camp, Richard V., Jr., 330 N. Second St.
Canlas, Emilio M., 705 Pine Blvd.
Cline, Harold H., Piedmond 63957
Dinelli, Frank E., 215 Oak St.
Engelhardt, Robert C., Kneibert Clinic
Gernstetter, Sangwill L., P. O. Box 473
Hansbrough, Eugene T., 623 Pine Blvd.
Harwell, J. Lester, 3820-A Country Club Rd., Winston-Salem, N. C. 27104
Hecker, Joseph E., Kneibert Clinic
Hoja, W. Alexander, Kneibert Clinic
Kneibert, Fred L., Kneibert Clinic
Ladyman, George H., 623 Pine St.
Leroux, Gene, Doniphan 63935
Loughead, John R., 330 N. 2nd St.
McLain, Bobby M., Route 2
McLane, Jerry F., 330 N. 2nd St.
McPheeters, James W., Sr., 330 N. 2nd St.
Macauley, Bernard J., 215 Oak St.
Markel, Arthur D., Kneibert Clinic
May, Albert L., Jr., 330 N. 2nd St.
Miller, David V., Kneibert Clinic
Moore, Dan B., 1406 Woodland Rd.
Parker, Arthur C., Jr., Kneibert Clinic
Post, Cyril A., 123 S. Broadway
Raper, Charles A., 1409 Parkview Ave.
Robertson, William D., Poplar Bluff 63901
Ruff, T. Eugene, Kneibert Clinic
Tapp, Ernest M., 634 Pine Blvd.
Tenpenny, J. W., 217 Oak St.
Tosh, John W., 217 Oak St.
Tuma, Arthur T., 215 Oak St.
Turner, James H., 217 Oak St.
Turner, William F., 217 Oak St.
Ward, Robert L., Valley Plaza Shopping Center
White, Barry B., 330 N. 2nd St.

CALDWELL COUNTY

(Grand River Medical Society)

CALLAWAY COUNTY MEDICAL SOCIETY

(Fulton 65251)

Brown, John J., 101 E. 6th St.
Brown, Katherine S., 1304 Vine St.
Cremer, William J., State Hosp. No. 1
Crews, Robert N., 612 Court St.
Durst, Henry, 610 Court St.
Gish, Rutledge, 5 E. 5th St.
Groce, George, 607 Court St.
Hill, James E., 607 Court St.
Jackson, Vernon B., State Hosp. No. 1
Kepler, Earl C., State Hosp. No. 1
Osbourn, Richard A., 102 Saults Addition
Peterson, Donald B., State Hosp. No. 1
Ritterbusch, James K., State Hosp. No. 1
Sydow, Henry A., 607 Court St.
Tellez, Edward R., 10 E. Reed St.
Tuttle, Jay F., State Hosp. No. 1
Wood, George F., 614 Market St.

CAMDEN COUNTY

Carnell, B. M., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Garrison, T. W., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Holley, Donald B., Camdenton 65020 (Member Mid-Missouri County Medical Society)
Wayland, Thomas A., Camdenton 65020 (Member Cole County Medical Society)

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY

(Cape Girardeau 63701)

Alyea, J. O., 937 Broadway
Ashley, Hugh V., 234 N. Sprigg St.
Ashley, Hugh V., Jr., 234 N. Sprigg St.
Bahn, Charles F., 1902 W. Broadway
Barnes, Seth S., 1854 Broadway
Blankenship, Dale M., 1930 Broadway
Burford, Edwin K., Jr., 937 Broadway
Campbell, Edward D., 937 Broadway
Chapman, Jean A., 1902 W. Broadway
Cochran, Jo R., 24 N. Sprigg St.
Crowe, John T., 937 Broadway
Elrod, Dennis B., 211 N. Sprigg St.
Estes, Albert M., 714 Broadway
Hall, Frank W., 1912 Broadway
Herbert, Charles T., 824 Good Hope St.
Holcomb, John K., 24 N. Sprigg St.
Hoxworth, Gerald M., 210 Christine St.
Jaeger, Joseph N., 208 S. High St., Jackson 63755
Johnson, Earl W., 927 Broadway
Jung, J. Marshall, Box 368, Illmo 63754
Kasten, Melvin C., 1209 Sailer Circle
Keim, John H., 230 N. Sprigg St.
Kinder, James A., 937 Broadway
Kratz, Paul E., 2560 Gordonville Rd.
Lovinggood, Thomas A., 649 Sylvan La.
McDonald, Eugene F., 125 Court St., Jackson 63755
McGinty, Charles P., 1834 Broadway
Magaletta, George E., 937 Broadway
Nunnelly, Gordon M., 1924 Broadway
Nussbaum, Paul B., 1858 Broadway
Nussbaum, Paul S., 1858 Broadway
Oehler, William F., 213 N. Sprigg St.
Otto, Thomas G., 1912 Broadway
Parsons, D. LeRoy, 24 N. Sprigg St.
Rapp, Harold B., 1011 N. Henderson St.
Rawlins, Fred E., 1607 Berthing Ave.
Reynolds, Garland A., P. O. Box 817
Ridings, Harold D., 937 Broadway
Ritter, Raymond A., 1912 Broadway
Seabaugh, Dayton I. L., 106 E. First N., Jackson 63755
Seabaugh, L. R., 219 N. Pacific St.
Seabaugh, Oda L., 24 N. Sprigg St.
Seabaugh, William O. L., 24 N. Sprigg St.
Shoss, Milton, 937 Broadway
Sparkman, Thomas C., 210 Christine St.
Stewart, Wendell K., 937 Broadway
Talbert, Clifford R., 1902 Broadway
Terry, James W., Jr., 219 N. Pacific St.
Tygett, Glenn J., 215 N. Sprigg St.
Tygett, Joseph N., 1834 Broadway
Weeks, George R., 937 Broadway
Williams, W. A., Jr., 24 N. Sprigg St.
Wilson, Charles F., 714 Broadway
Wolff, Paul G., 1819 Broadway

CARROLL COUNTY

(Grand River Medical Society)

CARTER-SHANNON COUNTY MEDICAL SOCIETY

Rollins, Harry D., Winona 65588

CASS COUNTY

(West Central Missouri Medical Society)

CEDAR COUNTY

(West Central Missouri Medical Society)

CHARITON-MACON-MONROE-RANDOLPH COUNTY MEDICAL SOCIETY

Arnold, Eugene L., V. A. Hosp., Jefferson Barracks 63125
Baker, Josephine D., Moberly 65270
Barnett, Floyd A., Paris 65275
Campbell, James E., Macon 63552
Chute, W. Deward, Moberly 65270
Cohrs, Clarence C., Moberly 65270
Collins, Gretchen D., Macon 63522
Dreyer, Philip V., Huntsville 65259
Eggleston, Donald E., Macon 63552
Fleming, J. Will, Jr., Moberly 65270
Fleming, Thomas S., Moberly 65270
Harms, Florian L., Salisbury 65281
Hasson, Robert, Moberly 65270
Huber, Lasley E., Moberly 65270
Miller, D. Herbert, 4410 Denison St., Muskogee, Okla. 74401
Miller, Howard S., Macon 63552
Ragsdale, George M., Paris 65275
Rowlette, Avery P., Moberly 65270
Smith, Carl C., Moberly 65270
Streetor, Roderick D., 245 Union Blvd., St. Louis 63108
Stuart, Daniel D., Brunswick 65236
Szymanski, Stanley R., Macon 63552
Young, Robert H., Moberly 65270

CHRISTIAN COUNTY

(Ozarks Medical Society)

CLARK COUNTY

(Lewis-Clark-Scotland County Medical Society)

CLAY COUNTY MEDICAL SOCIETY

Adams, Howard D., 114 N. Water St., Liberty 64068
Allain, James J., 2022 Swift St., N. Kansas City 64116
Allan, James R., 1236 Jesse James Rd., Excelsior Springs 64024
Allen, Louis A., 2800 Hospital Dr., N. Kansas City 64116
Armstrong, Jay H., 4812 Black Swan Dr., Shawnee Mission, Kan. 66216
Arst, Herbert E., 1201 E. 81st St. N., Kansas City 64118
Balhuizen, John, 5601 N. Antioch Rd., Kansas City 64119
Bates, George C., 2730 S. Mall, Kansas City 64119
Boone, Daniel S., 5800 N. Grand Ave., Kansas City 64118
Bowles, Richard P., 112 N. Water St., Liberty 64068
Bruce, Paul C., 115 S. Titus Ave., Excelsior Springs 64024
Burke, Emmet K., 5140 Antioch Rd., Kansas City 64119
Castillo, Michael E., 5601 N. Antioch Rd., Kansas City 64119
Chiles, David R., Box 238, Smithville 64089

Devine, Mark W., Jr., 5601 Antioch Rd., Kansas City 64119
Dunham, Robert H., 2025 Swift Ave., N. Kansas City 64116
Edwards, Theodore F., 2029 Burlington St., Kansas City 64116
Fakhoury, Donald A., 4030 N. Oak St., Kansas City 64111
Fischer, Edward H., 306 E. 21st Ave., N. Kansas City 64108
Fotopoulos, Chris K., 101 E. 23rd Ave., Kansas City 64116
Fowler, I. Charles, 2025 Swift S., N. Kansas City 64116
Galbol, Harley, Box 950, Excelsior Springs 64024
Gauer, Robert J., 525 N.W. 43rd Terr., Kansas City 64116
Hall, James W., 6712 N. Oak Trafficway, Kansas City 64118
Hayes, Lawrence L., 8400 N. Oak Trafficway, Kansas City 64155
Hedges, Richard C., 402 St. Louis Blvd., Excelsior Springs 64024
Hendren, Glenn W., 114 N. Water St., Liberty 64068
Hendren, Thomas H., Box 1000, Kearney 64060
Hodge, Robert H., 2204 E. 39th St., N. Kansas City 64109
Houck, Russell M., V. A. Hospital, Kecoughtan, Va. 23367
King, Phillip E., 101 W. Kansas St., Liberty 64068
Kovac, Albert P., 402 St. Louis Ave., Excelsior Springs 64024
Kuenzi, Donald E., 8630 N. Oak Trafficway, Kansas City 64155
Langhus, Melvin O., 104 W. Englewood Rd., N. Kansas City 64118
Lindquist, Paul A., 1940 152 Highway, Liberty 64068
McCormick, James E., 4030 N. Oak St., Kansas City 64111
McCracken, Samuel R., 107 W. Spring St., Excelsior Springs 64024
McPhee, William R., 2800 Hospital Dr., Kansas City 64116
Marsh, Wallace S., Tulane Univ. School of Postgrad., New Orleans, La. 70118
Mullins, Bernard L., 405 E. 19th St., N. Kansas City 64108
Musgrave, David E., Excelsior Springs 64024
Parker, Robert H., 5601 N. Antioch Rd., Kansas City 64119
Pate, Otho S., Pioneer Bldg., N. Kansas City 64119
Perry, Lawrence L., Jr., 6300 N. Lenox St., Kansas City 64151
Pileggi, Felix A., 405 E. 19th St., N. Kansas City 64108
Porter, Russell C., 1351 Weeburn Rd., Seal Beach, Calif. 90740
Revare, Paul, 4100 Vivion Rd., Kansas City 64119
Richardson, William D., Baptist Medical Center, Nalerigu Via Gambaga, Ghana, W. Africa
Roberts, L. Marvin, 5140 Antioch Rd., Kansas City 64119
Robichaux, Eugene B., 116 South St., Excelsior Springs 64024
Robinson, Van M., 4124 Vivion Rd., Kansas City 64119
Sanders, George E., 116 South St., Excelsior Springs 64024
Sawyer, Floyd E., 5350 N. Oak St. Trafficway, Kansas City 64118
Schertz, Truman B., 2022 Swift St., N. Kansas City 64116
Slaughter, Carl R., 405 E. 19th Ave., N. Kansas City 64108
Spelman, Archibald E., Smithville 64089
Sportsman, Weldon L., 6309 N. Grand Ave., Kansas City 64118
Stratman, Clarence A., 107 N.E. 59th Terr., Kansas City 64118
Triplett, Daniel A., 9511-B Adams St., Ellsworth AFB, S. D. 57701
Wald, Donald M., 2800 Hospital Dr., N. Kansas City 64116
Ward, Robert L., 6022 N. Antioch Rd., Kansas City 64119
Waterman, Franklin M., Liberty 64068
Waugh, George L., 2730 S. Mall, Kansas City 64119
Werner, Dean F., 2025 Swift St., N. Kansas City 64116
Werner, Franklin C., 5140 Antioch Rd., Kansas City 64119
Williams, John M., 32 S. Main St., Liberty 64068
Williams, Robert D., Smithville 64089
Withrow, John B., 5601 Antioch Rd., Kansas City 64119
Wright, Earl J., 1812 B. Willard Pl., Ft. Detrick, Frederick, Md. 20784

CLINTON COUNTY MEDICAL SOCIETY

Collantes, Jose L., Gower 64454
Kimes, Ira D., Cameron 64429
Luckenbill, Paul T., Plattsburg 64477
Mabrey, John P., Plattsburg 64477
Ozenberger, Larry A., Plattsburg 64477
Spalding, Wilber B., Plattsburg 64477

COLE COUNTY MEDICAL SOCIETY
(Jefferson City 65101)

Belden, Edgar A., State Office Bldg.
Belinson, Louis, 722 Jefferson St.
Bregant, Robert E., 1017 Laurel Dr.
Bruce, James G., 1921 W. Main St.
Clark, Kendall A., 515 E. High St.
Cooper, Charles W., 1259 N. Hillside, Wichita, Kan. 67214
Cox, William A., 105 E. High St.
Doyle, Matthew J., 515 E. High St.
Enloe, Lawrence D., Trust Bldg.
Exon, C. Stuart, 515 E. High St.
Fullgrabe, E. A., State Office Bldg.
Garner, Lynn M., State Division of Health
Gentry, Merritt L., 405 Norris
Gordon, James S., 515 E. High St.
Guhleman, Henry V., Jr., Medical Arts Bldg.
Gurnee, Landon H., 515 E. High St.
Handler, Fred P., 614 Boonville Rd.
Kanagowa, Hajime H., Medical Arts Bldg.
Kelly, Marshall W., 612 E. High St.
Klebba, Larry B., P. O. Box 403
Lauderdale, William H., High and Bolivar
Leslie, J. Paul, 933 Fairmount Blvd.
Leslie, James T., 4612 Hanford La., Louisville, Ky. 40207
Leslie, James T., Jr., 213 Jackson St.
Loyd, Earl L., 1448 W. Dunklin St.
McHaney, John W., 606 E. High St.
McKnelly, William V., 507 E. High St.
Mansur, Edward E., R.F.D. 2, Box 629D, Stuart, Fla. 33494
Matthews, John I., 302 Bolivar St.
Maxey, Hugh W., Prison Physician, Box 236
Meier, Francis X., 1913 Hayselton Dr.
Meinershagen, Charles W., 138 Forest Pl.
Melia, Bernard J., Jr., Medical Arts Bldg.
Ossman, Julian A., 2505 W. Main St.
Ringo, Henry J., Centertown 65023
Russell, Joseph P., Division of Health
Ryan, Thomas J., 213 Jackson St.
Sanders, Jack S., 515 E. High St.
Schmidt, J. H., 515 E. High St.
Scott, E. David, 238 E. High St.
Sennott, John S., 515 E. High St.
Shull, George D., 521 E. High St.
Stauffer, Harry B., Central Trust Bldg.
Stricker, Harold C., 515 E. High St.
Sugarbaker, Everett D., 503 E. High St.
Summers, Joseph S., Jr., 515 E. High St.
Tanner, Robert H., 1608 Greenberry Rd.
Taylor, Leon A., 129 E. High St.
Tietjen, Frederick O., 213 Jackson St.
Watts, Byron E., 515 E. High St.
Wayland, Thomas A., Box 239, Camdenton 65020
Winegar, Alvon C., 515 E. High St.

COOPER COUNTY MEDICAL SOCIETY
(Boonville 65233)

Abele, William A., 329 Main St.
Avery, Willard B., 329 Main St.
Beckette, Theodore C., 317 Main St.
Boley, James O., 3200 E. Meyer Blvd., Kansas City 64132
Chamberlain, Gilbert L., 570 E. Spring St.
Diekroeger, Manuel L., Route 1
Draper, Bernard, 329 Main St.
Hata, Daikichi, 329 Main St.
Humphreys, Edward T., 329 Main St.
Stuart, Byron M., 329 Main St.
Winn, George W., 329 Main St.

CRAWFORD COUNTY
(Mid-Missouri County Medical Society)

DADE COUNTY
(Barton-Dade County Medical Society)

DALLAS-HICKORY-POLK COUNTY MEDICAL SOCIETY

Barnett, Charles H., Bolivar 65613
Brooks, John M., 840 S. Pickwick St., Springfield 65804
Griffin, Evelyn, Buffalo 65622
Griffin, Olin A., Jr., Buffalo 65622
Harrell, Henry J., Rt. 1, Box 263B, Summerfield, Fla. 32691
Kahler, Monte R., Bolivar 65613
Koon, Ben H., Bolivar 65613
McCraw, Doyle C., Bolivar 65613
Robinson, George G., Humansville 65674

DAVIESS COUNTY
(Grand River Medical Society)

DEKALB COUNTY
(Grand River Medical Society)

DENT COUNTY
(Mid-Missouri County Medical Society)

DOUGLAS COUNTY
(South Central Counties Medical Society)

DUNKLIN COUNTY MEDICAL SOCIETY

Baldwin, Paul, Kennett 63857
Benson, Leo J., Jr., Kennett 63857
Cash, Charles R., Kennett 63857
Croom, Dorwyn W., Malden 63863
Dunmire, George Q., Kennett 63857
English, Wallace D., Cardwell 63829
Hopkins, Florian G., Gideon 63848
Hunt, John L., Campbell 63933
Joffe, Irwin, 617 W. Main St., Paragould, Ark. 72450
Legan, John K., Kennett 63857
Miltenberger, Paul C., Kennett 63857
Morehead, William E., Malden 63863
Palenske, Robert L., Hornersville 63855
Peck, Chester R., Jr., Kennett 63857
Rutledge, William J., Campbell 63933
Swafford, Owen J., Senath 63876
Tarver, Quinton, Kennett 63857
Wilson, Loys C., Kennett 63857
Zimmerman, Joe A., Kennett 63857

FRANKLIN-GASCONADE-WARREN COUNTY MEDICAL SOCIETY

Aulenbacher, Carl E., Washington 63090
Baker, Donald L., Union 63084
Bonney, Samuel C., Washington 63090
Bozzo, Raymond J., Washington 63090
Brenner, Paul A., Owensville 65066
Crawford, Robert M., Sullivan 63080
de la Torre, John J., Sullivan 63080
Denny, Hubert M., Union 63084
Eisenmann, Benjamin P., New Haven 63068
Eyermann, H. Walter, Warrenton 63383
Farrell, S. L., Sullivan 63080
Giem, Ross N., Sullivan 63080
Hoelscher, Harold F., Warrenton 63383
Johnson, Grover C., Marthasville 63357
Mays, Frank G., Washington 63090
Mitchell, Thomas J., St. Clair 63077
Moellenhoff, Robert W., Washington 63090
Murney, Joseph A., Washington 63090
Post, John P., Washington 63090
Richardson, George A., Union 63084
Richardson, William R., Union 63084
Royse, Roy P., Sullivan 63080
Ryan, John B., Washington 63090
Schmidt, Charles A., Gerald 63037
Shaw, Carvel T., Hermann 65041
Shea, James G., Gerald 63037
Steinbeck, Herbert D., 21 Hilltop Dr., Chappaqua, N. Y. 10514
Strehlman, Benjamin G., Union 63084
Workman, George M., Hermann 65041

GASCONADE COUNTY
(Franklin-Gasconade-Warren County Medical Society)

GENTRY COUNTY
(Northwest Missouri Medical Society)

GRAND RIVER MEDICAL SOCIETY
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Allen, Erroll W., Carrollton 64633
Atcheson, Windsor B., Princeton 64673
Bales, Eugene L., Carrollton 64633
Bohnsack, Ralph W., Brookfield 64628
Brennan, Raymond J., Chillicothe 64601

Brewer, Lake, Ridgeway 64481
Broyles, Watkins A., Bethany 64424
Carter, Howard, Hamilton 64644
Clark, Chester L., Trenton 64683
Conrad, Joseph, Chillicothe 64601
Cross, Albert D., Trenton 64683
Daley, Frank R., Hamilton 64644
Dixon, John R., Brookfield 64628
Dowell, Donald M., Chillicothe 64601
Dowell, J. Larry, Pattonsburg 64670
Duffy, Oliver F., Trenton 64683
Ellsworth, Willard, Cainsville 64632
Fair, William L., Chillicothe 64601
Fuson, William A., Trenton 64683
Gale, Joseph F., Chillicothe 64601
Gary, George, Marceline 64658
Gearhart, Merriam, Bethany 64424
Gilliland, Charles E., Cameron 64429
Horner, Glennon A., Marceline 64658
Howell, Billy D., Brookfield 64628
Hurst, Ben B., Cameron 64429
Kimberlin, Herbert C., Trenton 64683
McArtor, Thomas R., Browning 64630
Magill, Joseph S., Milan 63556
Mandler, George, Chillicothe 64601
Nixon, Edward E., Gallatin 64640
Pemberton, Charles W., 5060 N. Oak Trafficway, Kansas City 64118
Platz, John H., Carrollton 64633
Rice, Huberta King, Brookfield 64628
Smith, Robert W., Marceline 64658
Staton, R. Hamilton, Carrollton 64633
Sweiger, James H., Maysville 64469
Thompson, Emma A. B., 1801 Cliff Dr., Columbia 65201
Todd, Paul C., Marceline 64658
Vandiver, Virgil D., Chillicothe 64601
Vinyard, Jack L., Carrollton 64633
Wilson, Fred K., Winston 64689

GREENE COUNTY MEDICAL SOCIETY
(Springfield)

Allen, Jerry H., 1211 S. Glenstone St., 65804
Allison, James B., 600 S. Glenstone St. 65802
Anthony, Dallas D., Professional Bldg. 65806
Ash, Charles J., Professional Bldg., 65806
Ashley, Thomas E., 1211 S. Glenstone St. 65804
Atkinson, Thomas E., Jr., 609 E. Cherry St. 65806
Auner, Cecil R., 600 S. Glenstone St. 65802
Bailey, Alan B., 609 Cherry 65806
Baldwin, Richard, 600 S. Glenstone St. 65802
Blades, Ross D., 1211 S. Glenstone St. 65804
Bonebrake, MacDonald, Professional Bldg. 65806
Broaddus, Loren, 1550 E. Sunshine 65804
Brown, Alex L., 1636 S. Glenstone St. 65804
Brown, James T., 1653 S. National St. 65804
Brown, Lyman D., 311 College St. 65806
Burkey, Jordan W., Professional Bldg. 65806
Busiek, Erwin F., Professional Bldg. 65806
Busiek, Paul J., Professional Bldg. 65806
Busiek, Urban J., Professional Bldg. 65806
Callaway, Guy D., 1155 S. Delaware St. 65804
Callaway, Guy D., Jr., 1211 S. Glenstone St. 65804
Christy, Raymond A., Jr., 1211 S. Glenstone St. 65804
Clarke, Michael J., 609 Cherry 65806
Clary, William F., 1636 S. Glenstone St. 65804
Clawson, James W., Professional Bldg. 65806
Clayton, Edgar L., Professional Bldg. 65806
Cochran, Thomas E., Jr., 2423 Brentwood Blvd. 65804
Coller, Frederick C., 2433 Marlan St. 65S02
Conrad, Raymond C., 609 Cherry St. 65806
Cook, James R., 850 Cavalier Rd. 65802
Crawford, Oral B., Professional Bldg. 65806
Cunningham, Darral D., 1715 Boonville Ave. 65803
Dietz, M. Wendell, Burge Protestant Hosp. 65803
Dillard, Erin M., Professional Bldg. 65806
Dills, Joseph N., 1715 Boonville Ave., 65803
Dolan, Daniel L., Professional Bldg. 65806
Duncan, Robert D., 1534 E. Sunshine 65804
Eastwood, Robert A., 3043 Wilshire 65804
Elkins, Ronald F., Professional Bldg. 65806
Ellis, Francis J., Professional Bldg. 65806
Ellis, Harry L., Professional Bldg. 65806
Evans, Ezra L., Jr., 1260 E. Catalpa 65806
Farthing, Fred R., 1234 E. Walnut St. 65802
Farthing, Gene W., 1636 S. Glenstone St. 65804
Ferguson, John L., 1550 E. Sunshine 65804
Ferguson, John P., Jr., 1219 S. Clay St. 65804
Ferrell, Thomas E., Jr., 1534 E. Sunshine Blvd. 65804
Fitch, C. H. Max, 1711 Boonville Ave. 65803
Focht, Ralph H., Strafford 65757
Fogerson, Virginia L., 1125 S. Karla 65804
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Giddings, Frank C., Burge Protestant Hosp. 65803
Glenn, Elmer E., 833 East Elm 65806
Glynn, Robert R., 1211 S. Glenstone St. 65802
Gorelick, David F., Professional Bldg. 65806
Gose, Don F., 1550 E. Sunshine 65804
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Hall, Durward G., 2442 S. Fremont 65804
Hanan, Ernest B., 724 E. Kingsbury 65804
Hanss, Armand W., 600 S. Glenstone St. 65802
Harmon, Ben C., 1211 S. Glenstone St. 65804
Harvey, Harold D., 1531 E. Sunshine 65804
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H'Doubler, Francis T., Jr., Professional Bldg. 65806
H'Doubler, Peter B., 609 Cherry St., Suite 114 65806
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Holmes, David R., 1636 S. Glenstone St. 65804
Hoover, H. Lee, Jr., 1330 E. Walnut St. 65802
Horst, Otto C., Medical Arts Bldg. 65806
Horton, James D., Professional Bldg. 65806
Hubbell, Ira G., 302 McNab Dr., Columbia 65201
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Johnson, George A., 2349 Edgewood 65804
Johnson, George L., Martin Army Hospital, Ft. Benning, Ga. 31905
Johnson, Warford B., Professional Bldg. 65806
Johnson, William F., Professional Bldg. 65806
Johnston, Joseph L., 2855 Southern Hills Blvd. 65804
Key, James S., Professional Bldg. 65806
Klingner, George M., 1630 N. Jefferson St. 65803
Klingner, George M., Jr., 1630 N. Jefferson 65803
Knabb, Arthur D., 1630 N. Jefferson St. 65803
Knabb, Henry F., Jr., 1630 N. Jefferson St. 65803
Knabb, Kenneth E., 1630 N. Jefferson St. 65803
Kolze, Vernon W., 600 S. Glenstone 65802
Langston, Walter R., Professional Bldg. 65806
Leidinger, Karl J., Republic 65738
Lemmon, George B., 1101 E. Walnut St. 65802
Lemmon, G. Bruce, Jr., Professional Bldg. 65806
Lewis, Noel R., 1423 N. Jefferson Ave. 65803
Litton, Lyle D., Burge Protestant Hosp. 65803
Lockhart, Charles E., Professional Bldg. 65806
Lorenc, Ernest, Professional Bldg. 65806
Lowe, Horace A., Jr., 114 Professional Bldg. 65806
Lurie, Harold H., 600 S. Glenstone St. 65802
McAlhany, Howard J., 609 Cherry St. 65806
McKinsey, John J., Professional Bldg. 65806
Maddux, William P., Professional Bldg. 65806
Maher, Robert W., Professional Bldg. 65806
Maple, Francis M., 1211 S. Glenstone St. 65804
Menchetti, Don E., 1630 N. Jefferson Ave. 65803
Meyer, Claude B., 4667 Palmer Lane, Rt. 12, 65804
Morton, Paul C., 1508 E. Stanford 65804
Moseley, F. Thomas, 609 Cherry St. 65804
Napper, Marvin L., Professional Bldg. 65806
Neu, Leo T., Jr., 3008 Carlisle Circle 65804
Overend, Don S., 1211 S. Glenstone St. 65804
Palcheff, Chris L., 1636 S. Glenstone St. 65804
Park, William I., Jr., Professional Bldg. 65806
Parlato, George S., 107 Professional Bldg. 65806
Penninger, William H., 600 S. Glenstone St. 65802
Peterson, Stanley S., 1211 S. Glenstone St. 65804
Podrecca, Guido I., Professional Bldg. 65806
Polk, John W., 609 Cherry St. 65806
Powell, Edwin M., Professional Bldg. 65806
Prater, Bill G., Professional Bldg. 65806
Pruett, Paul L., Professional Bldg. 65806
Rainwater, Elmer H., Professional Bldg. 65806
Rigney, Levi M., 505 Woodruff Bldg. 65806
Rosen, Max, Professional Bldg. 65806
Russell, Earl D., 1503 S. Glenstone St. 65804
Sala, Jose M., 1423 N. Jefferson Ave. 65803
Scanlon, Robert C., 1711 Boonville St. 65803
Schaeffer, Edward M., 600 S. Glenstone St. 65802
Schroff, Carle H., 1630 N. Jefferson Ave. 65803
Schwartz, Eugene J., Professional Bldg. 65806
Schweitzer, Fred C., Jr., Woodruff Bldg. 65806
Siceluff, Joseph G., 609 Cherry St. 65806
Silsby, Don J., Professional Bldg. 65806
Silsby, Harry D., Professional Bldg. 65806
Simpson, Albert P., 318 St. Louis St. 65806
Simpson, Emerson L., 1630 N. Jefferson Ave. 65803
Smith, C. Souter, 620 St. Louis St. 65806
Snead, William H., Jr., Professional Bldg. 65806
Spalding, David L., Professional Bldg. 65806
Stewart, Robert B., 600 S. Glenstone St. 65802
Stewart, R. Wendell Professional Bldg. 65806
Stufflebam, Robert E., 2248 Mirabeau St. 65804
Sturtevant, Harwood N., Professional Bldg. 65806
Sundstrom, Frank D., 1211 S. Glenstone St. 65804
Tarrasch, Ernest L., 1636 S. Glenstone St. 65804
Taylor, William E., Southwest Missouri State College
Thomasson, David D., 600 S. Glenstone St. 65802
Tillman, Walter W., Jr., Professional Bldg. 65806
Tombridge, Thomas L., Professional Bldg. 65806
Trotter, W. Yates, Professional Bldg. 65806
Tsang, John L. K., 1636 S. Glenstone St. 65804
Turner, Glenn O., Professional Bldg. 65806
Vail, A. Denton, Professional Bldg. 65806
Vensel, Lee H., 600 S. Glenstone St. 65802
Waddell, Kenneth E., 1211 S. Glenstone St. 65804
Wakeman, J. Newton, 600 S. Glenstone St. 65802
Walker, William M., Professional Bldg. 65806
Warres, Herbert L., 2614 Englewood Rd. 65804
Waterfield, Jim R., 1211 S. Glenstone St. 65804
Webb, Leslie R., Jr., 1243 E. Loren 65804
White, R. Ned, Professional Bldg. 65806
Williams, John W., 600 S. Glenstone St. 65802

Williams, John W., Jr., 1227 Roanoke St. 65804
Wilson, Roy E., 1211 S. Glenstone St. 65804
Wise, Gordon F., Professional Bldg. 65806
Wittmer, Samuel C., 600 S. Glenstone St. 65802
Wood, William W., 1211 S. Glenstone St. 65804
Wooldridge, Wilfred E., Professional Bldg. 65806
Yancey, Daniel L., 1211 S. Glenstone St. 65804
Zahn, Robert L., Professional Bldg. 65806

GRUNDY COUNTY
(Grand River Medical Society)

HARRISON COUNTY
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HENRY COUNTY MEDICAL SOCIETY

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Brock, Bernard, Windsor 65360
Hollingsworth, Ray S., Clinton 64735
Hughes, Shelby B., Clinton 64735
Jones, Edna M., Clinton 64735
King, Richard H., Clinton 64735
Smith, James O., Clinton 64735
Smith, William J., Windsor 65360
Thurber, Claude M., Windsor 65360
Walker, George S., Clinton 64735
Walker, Hugh B., Clinton 64735

HICKORY COUNTY
(Dallas-Hickory-Polk County Medical Society)

HOLT COUNTY
(Northwest Missouri Medical Society)

HOWARD COUNTY MEDICAL SOCIETY

Bloom, W. A., Fayette 65248
Dean, Francis D., Fayette 65248
Leech, Maurice P., Fayette 65248
Marshall, William G., Glasgow 65254
Shaw, William J., Fayette 65248
Shaw, William J., Jr., Fayette 65248

HOWELL COUNTY
(South Central Counties Medical Society)

IRON COUNTY
(Mineral Area County Medical Society)

JACKSON COUNTY MEDICAL SOCIETY
(Kansas City)

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Adelman, Arthur, 333 W. Meyer Blvd. 64113
Adler, Federico, 701 E. 63rd St. 64110
Agee, Loren G., 11201 Colorado 64137
Aisenstadt, E. Albert, 333 W. Meyer Blvd. 64113
Aks, Daniel, 751 E. 63rd St. 64110
Alberg, Marvin R., One Penn Valley Park 64141
Alderman, Thomas F., 920 W. 47th St. 64112
Allebach, H. K., Research Hosp., Meyer Blvd. at Prospect 64132
Allen, Robert E., 4320 Wornall Rd. 64111
Allen, William B., 4620 Nichols Parkway 64112
Alsop, Webb S., Jr., 3604 W. 53rd St., Shawnee Mission, Kan. 66205
Altomare, Edward P., 2610 E. 63rd St. 64130
Altringer, Arthur N., 5630 Mission Dr., Shawnee Mission, Kan. 66208
Ambler, Carl D., Wornall Rd. at 44th St. 64111
Ammatelli, Francis J., 7546 Troost St. 64131
Anderson, Raymond B., 1710 Independence Ave. 64106
Anderson, Richard W., 1001 Romany Rd. 64113
Andrews, Berneil W., 4320 Wornall Rd. 64111
Andrus, Bailey C., 4320 Wornall Rd. 64111
Angles, Luis E., 701 E. 63rd St. 64110
Arms, Arnold V., 4320 Wornall Rd. 64111
Arnold, John D., 24th & Cherry Sts. 64108
Aschman, Theodore H., Plaza Time Bldg. 64112
Asher, A. Graham, 4706 Broadway 64112
Atcheson, Bellefield, 11123 Locust St. 64131
Atwell, Floyd C., 4620 Nichols Parkway 64112
Aull, John, 6544 Summit 64113
Averill, Keith H., 2316 E. Meyer Blvd. 64132
Bachmann, Paul L., 1212 W. Truman Rd. Independence 64050
Bacola, Eleni, 1710 Independence Ave. 64106
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Baker, Philip J., 11440 E. 47th St. 64133
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Barelli, Pat A., 4177 Broadway 64111
Barloon, James H., 9406 E. 63rd St. 64133
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Barnes, Robert H., 2200 McCoy St. 64131
Barnett, Gordon P., 751 E. 63rd St. 64110
Barry, Gerald W., 1948 E. Parvin Rd. 64116
Barry, William B., 4320 Wornall Rd. 64111
Basantz, Fernando V., 7951 State Line 64114
Bass, Walter R., 9503 E. 63rd St. 64133
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Baumhardt, Edward E., 4320 Wornall Rd. 64111
Bay, Merrill R., 1808 W. Main St., Blue Springs 64015
Beatty, Nina D., 24th & Cherry Sts. 64108
Beck, Calvin E., 4320 Wornall Rd. 64111
Becker, Richard R., 5622 Holmes St. 64110
Becker, Rolfe A., 751 E. 63rd St. 64110
Bell, William F., 615 W. 3rd St., Lee's Summit 64063
Bennett, James D., 6700 Troost 64131
Benoit, Hector W., Jr., 4620 Nichols Parkway 64112
Berenson, Sheldon E., 4620 Nichols Parkway 64112
Bergmann, Victor H., 105 Ward Parkway 64112
Bernreiter Michael, 1246 W. 63rd St. 64113
Berry, Guy N., 4320 Wornall Rd. 64111
Berry, Maxwell G., 4320 Wornall Rd. 64111
Biggs, Alfred D., 6400 Prospect Ave. 64132
Biggs, Harry L., 63rd & Evanston 64133
Bikales, Victor W., 751 E. 63rd St. 64110
Bills, Marvin L., Plaza Time Bldg. 64112
Black, Don A., 6400 Prospect Ave. 64132
Black, Eugene C., Professional Bldg. 64106
Blim, Richard D., 4320 Wornall Rd. 64111
Bordy, Marvin D., 701 E. 63rd St. 64110
Borenstine, Joseph, 7307 Holmes St. 64131
Bortnick, Eugene, 751 East 63rd St. 64110
Botwin, Arnold E., 701 E. 63rd St. 64110
Boughnou, Harvey P., 315 Nichols Rd. 64112
Bourke, Timothy S., 4620 Nichols Pkwy. 64112
Boutros, Amin, 3112 Linwood Blvd. 64128
Bowser, John F., 411 Nichols Rd. 64112
Boyd, George K., 5111 Independence Ave. 64124
Boyer, Philip L., Jr., Box 963 64137
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Bradford, John F., 4320 Wornall Rd. 64111
Brady, Arthur M., 3039 Brooklyn 64130
Brams, Jack B., 751 E. 63rd St. 64110
Braverman, Abe E., 701 E. 63rd 64110
Brewster, Charlotte M., 4320 Wornall Rd. 64111
Brown, Adrian J., 12 E. 63rd St. 64113
Brown, Elwyn S., 1710 Independence Ave. 64106
Brown, Irwin S., Plaza Time Bldg., 64112
Brown, Robert S., 4706 Broadway 64112
Brownell, William M., 3600 Troost Ave. 64109
Broyles, Glen H., 6140 Raytown Rd. 64133
Brumm, Lawrence W., 6400 Prospect 64132
Bruner, Robert E., 912 Valentine Rd. 64111
Brust, Carl H., 6114 Howe Dr., Mission, Kan. 66205
Bryan, William H., Jr., 3939 Prospect Ave. 64130
Bryant, T. J., 4949 Rockhill Rd. 64110
Buckingham, William W., 1103 Grand Ave. 64106
Buckner, Robert C., Plaza Parkway Bldg. 64112
Budke, Harold A., 306 E. 12th St. 64106
Buhler, Victor B., 5212 Belleview Ave., 64112
Buie, Bruce R., 11201 Colorado 64137
Bunting, Williston P., 305 W. 43rd St. 64111
Burns, Beryl I., 1510 Bass Ave., Columbia 65201
Butcher, Robert W., 7924 Paseo Blvd. 64132
Butterworth, Nelson S., 4706 Broadway, 64112
Byers, Philip L., 4320 Wornall Rd. 64111
Caffrey, Raymond J., 1314 W. Red Bridge 64114
Caldwell, John K., 6700 Troost 64131
Calovich, Emery R., 4620 Nichols Parkway 64112
Campbell, Frederick B., 315 Nichols Rd. 64112
Capps, Eugene C., 6700 Troost 64131
Carlson, Hjalmar E., Professional Bldg. 64106
Carmichael, Francis A., Jr., 4320 Wornall Rd. 64111
Carrier, Edson C., 315 Nichols Rd. 64112
Caruso, Alfred A., 4526 Paseo Blvd. 64110
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Case, William F., 11201 Colorado 64137
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Chapman, Samuel B., 6400 Prospect Ave. 64132
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Cobb, James R., 6741 Prospect Ave. 64132
Coburn, Donald F., 6400 Prospect Ave. 64132
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Cockerell, Sanford F., 11200 Winner Rd., Independence 64052
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Coffin, Theodore A., Professional Bldg. 64106
Cohen, Harry K., 751 E. 63rd St. 64110
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Colom, George A., 6700 Troost 64131
Comer, J. Russell, 4949 Rockhill Rd. 64110
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Cooper, Charles S., 6700 Troost 64131
Cooper, John H., Argyle Bldg. 64106
Cooper, Leo F., 6700 Troost 64131
Cortner, Mary C., 6700 Troost 64131
Courter, Larry P., 6400 Prospect Ave. 64132
Cowherd, Joseph B., 634 W. 69th Terr. 64113
Cox, Kenneth E., 4320 Wornall Rd. 64111
Cox, William L., 1465 Spruce Ave., Liberty 64068
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Crocker, Albert M., 3319A East 43rd St. 64130
Crockett, James E., 4320 Wornall Rd. 64111
Crow, Martin L., 4177 Broadway 64111
Culbertson, William F., 1253 Huntington Rd. 64113
Curran, Desmond, Federal Reserve Bank Bldg. 64106
Curts, Calvin J., 4706 Broadway 64112
Cutcliff, Daniel J., 1103 Professional Bldg. 64106
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Davis, Jack M., 6700 Troost 64131
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Davis, Kenneth A., 209 W. 47th St. 64112
Davis, Richard E., 4643 Wyandotte St. 64112
Davis, Robert C., 659 W. 61st Terr. 64113
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DeMotte, John A., 315 Nichols Rd. 64112
Dennie, Charles C., 4320 Wornall Rd. 64111
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Elliott, Wade E., 710 W. 12th St. 64105
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Engelking, David F., 9507 E. 63rd St. 64133
Engelmann, Calvin E., 523 Plaza Parkway Bldg. 64112
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Eubank, David F., 8830 E. 61st St. 64133
Eubank, Dillard M., 9406 E. 63rd St. 64133
Eubank, William R., 6700 Troost 64131
Eubank, William Y., 6400 Prospect 64132
Evans, Lawrence L., Wornall Rd. at 44th St. 64111
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Ferguson, Donald S., 2012 E. 24th St. 64127
Ferguson, James T., Bryant Bldg. 64106
Ferris, Carl R., 6400 Prospect 64132
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Fitzgerald, Robert H., 10901 Winner Rd., Independence 64052
Flanders, Virgil E., Professional Bldg. 64106
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Forsythe, Robert W., 4320 Wornall Rd. 64111
Fouts, Dallas B., Sr., 13101 E. 43rd St., Independence 64050
Fowler, Fred D., 4320 Wornall Rd. 64111
Fowler, James W., 6700 Troost 64131
Franklin, Curtis U., 2415 Park Ave. 64127
Fredeen, Robert C., 411 Nichols Rd. 64112
Freedman, Aaron D., 4949 Rockhill Rd. 64110
Frick, John P., 116 Huntington Rd. 64113
Friedman, Morris L., 701 E. 63rd St. 64110
Fritzlen, Thomas J., 825 W. 63rd St. 64113
Fuhrman, Donald L., 4320 Wornall Rd. 64111
Fulton, Albert E., 310 W. 47th St. 64112
Fury, Tex E., 642 Huntington Rd. 64113
Gainey, Harold L., 4320 Wornall Rd. 64111
Galbreath, Ashford M., Professional Bldg. 64106
Ganley, William C., Argyle Bldg. 64106
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Gaskins, John H., 4320 Wornall Rd. 64111
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Geiger, William A., Jr., 3001 Wyandotte St. 64108
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Gilkey, Harry M., Professional Bldg. 64106
Gillen, Billy A., 31st & Wyandotte Sts. 64108
Ginardi, Donald E., 4643 Wyandotte St. 64112
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Glasscock, Ernest L., 411 Nichols Rd. 64112
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Goolsbee, Robert L., 6700 Troost 64131
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Graham, Patrick G., 4320 Wornall Rd. 64111
Graham, Wallace H., 1815 E. 63rd St. 64130
Grauerholz, James W., 4203 Mercier St. 64111
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Green, Stanley L., 10901 Winner Rd., Independence 64052
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Gregory, Ralph W., 4620 Nichols Parkway 64112
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Habib, Henry N., 2300 Holmes St. 64108
Hagar, David L., 9406 E. 63rd St. 64133
Haggan, Margaret E., 7809 E. 55th St. N. 64119
Haight, John M., 3401 E. 12th Blvd. 64127
Haith, Edward E., 751 E. 63rd St. 64110
Haith, Walter F., 2701 E. 31st St. 64128
Hall, Ralph R., St. Luke's Hosp. 64111
Hall, Thomas B., 4550 Warwick 64111
Halperin, Phillip H., 751 E. 63rd St. 64110
Hamel, Herbert A., 6306 Morningside Dr. 64113
Hamill, Robert W., 4320 Wornall Rd. 64111
Hanes, Lee D., 446 W. 69th St. 64113
Hanes, Robert L., 6700 Troost 64131
Hannas, Ralston R., Jr., Volker Blvd. at Brookside 64112
Hardacre, Ruth A., 3300 Charlotte St. 64109
Hardy, Henry M., 6606 Overhill Rd., Shawnee Mission, Kan. 66208
Hardy, John W., Professional Bldg. 64106
Harless, Morris S., 4320 Wornall Rd. 64111
Harlow, Lloyd M., 2462 Brooklyn St. 64127
Harned, Bert W., 2826 Main St. 64108
Harrin, William R., 411 Nichols Rd. 64112
Harris, Boyd L., 8982 Kobe Place, San Diego, Calif. 92123
Hart, Lawrence W., 4643 Wyandotte St. 64112
Hartwig, Frederick H., 6400 Prospect 64132
Hartwig, Raymond W., 3110 Tomahawk, Shawnee Mission, Kan. 66208
Hash, Helen E., 807 W. 69th St. 64113
Hashinger, Edward H., 7884 Lookout Dr., La Jolla, Calif. 92037
Hausheer, Herman J., 1612 W. Truman Rd., Independence 64050
Haynes, Solon E., 2727 Main St. 64108
Hazen, Robert M., 6400 Prospect 64132
Heilman, Edward J., 6700 Troost 64131
Hellerstein, Stanley, 1710 Independence Ave. 64106
Helman, Richard G., 7721 State Line 64114
Henry, Clarke L., 4320 Wornall Rd., 64111
Herrman, George V., 4320 Wornall Rd. 64111
Hibbard, Blaine Z., 4320 Wornall Rd. 64111
Hickerson, William H., 604 W. Maple Ave., Independence 64050
Higgins, Robert S., 6400 Prospect 64132
Hill, Jack H., Trinity Lutheran Hosp. 64108
Hink, Frederick W., 10229 Independence Rd., Independence 64054
Hirsch, Joe E., 4643 Wyandotte St. 64112
Hoadley, William D., 6400 Prospect 64132
Hodgson, Frank H., 4301 Main St. 64111
Hoeper, Samuel D., 12921 Grandview Rd., Grandview 64030
Hoffman, Jacob S., 751 E. 63rd St. 64110
Hoffmann, R. Lee, Professional Bldg. 64106
Hogan, Daniel F., Kansas State University, Manhattan, Kan. 66504
Hogue, Frank S., 4320 Wornall Rd. 64111
Hollinger, Lloyd A., 6700 Troost 64131
Hollweg, Kenneth C., 4320 Wornall Rd. 64111
Holt, Waldo S., 4620 Nichols Parkway 64112
Holton, Edward B., 10901 Winner Rd., Independence 64052
Hook, Waller C., 6400 Prospect 64132
Hopkins, James P., 6700 Troost 64131
Hornstra, Robijn K., 600 E. 22nd St. 64108
Hungate, Carroll P., Professional Bldg. 64106
Hunt, Claude J., 6400 Prospect 64132
Hunt, Thomas R., 6400 Prospect 64132
Hunter, Martin P., 4706 Broadway 64112
Hunzicker, Warren J., 3520 Broadway, Box 139, 64141
Hurwitt, Frank, 927 McGee St. 64106
Hyde, Lawrence L., 5020 W. 67th St., Shawnee Mission, Kan. 66208
Ingham, Walton C., 4320 Wornall Rd. 64111
Irvine, John W., 9503 E. 63rd St. 64133
Irwig, Fred, Professional Bldg. 64106
Jackson, Haywood R., 3317 E. 43rd St. 64130
Jackson, William R., 1102 Grand Ave. 64106
Jacob, Walter P., 701 E. 63rd St. 64110
Jacobs, Morton, 6314 Brookside Plaza 64113
Jacobs, Walter H., 751 E. 63rd St. 64110
James, Otis E., Jr., 6306 Morningside Dr. 64113
Jansen, Robert, 101 E. 63rd St. 64113
Jarvis, James A., 600 W. 57th St. 64113
Jenab, Morteza, 6700 Troost 64131
Jennett, J. Harvey, Professional Bldg. 64106
Johnson, C. Laurence, Professional Bldg. 64106
Johnson, James S., 2202 E. 18th St., 64127
Johnson, Joseph E., 11201 Colorado 64137
Johnson, Morris B., 1102 130th St. Grandview 64030
Johnson, Thomas M., 4320 Wornall Rd. 64111
Johnson, William A., 2200 Prospect 64127
Johnstone, Paul N., Bryant Bldg. 64106
Jonas, Harry S., Jr., 2116 S. Sterling Ave. Independence 64052
Jones, Gale O., 6400 Prospect 64132
Jones, Marion E., 2462 Brooklyn St. 64127
Jones, Samuel T., III, 401 Plaza Parkway Bldg. 64112
Jones, T. Reid, 411 Nichols Rd. 64112
Justus, John B., Plaza Parkway Bldg. 64112
Kahn, Marvin, 203 West Perimeter, San Antonio, Tex. 78227
Kanarek, Joseph, 751 E. 63rd St. 64110

Kandt, Ray E., Jr., 624 Rockhill Med. Bldg. 64131
Kanter, Arnold N., 405 E. 19th Ave. 64116
Kantor, Julius M., 701 E. 63rd St. 64110
Kantor, Samuel, 6700 Troost 64131
Kartus, Irving, 6155 Oak St. 64113
Katz, Milton, 4620 Nichols Parkway 64112
Kaufmann, Herbert H., 701 E. 63rd St. 64110
Kaul, Philip G., 4320 Wornall Rd., 64111
Kay, Billy F., 615 W. 3rd St., Lee's Summit 64063
Keairnes, Harold W., 3800 S. Woodland St., Independence 64052
Kealhofer, George C., 6627 Prospect Ave. 64132
Keeler, James E., 4620 Nichols Parkway 64112
Kelly, Eugene H., The Baptist Home, Ironton 63650
Kendall, Charles A., 10901 Winner Rd., Independence 64052
Kendall, Forrest H., Univ. of Kan. Med. Branch, Kansas City, Kan. 66103
Kennard, George K., 4320 Wornall Rd. 64111
Kenny, John A. C., 411 Nichols Rd. 64112
Kent, Bela K., 701 E. 63rd St. 64110
Kent, Clifford F., Professional Bldg. 64106
Kernodle, Jefferson D., Box 2778 64142
Ketcham, William M., 4706 Broadway 64112
Ketterman, Grace H., 225 W. 43rd St. 64111
Ketterman, Herbert L., 11201 Colorado 64137
Kettner, Edward G., Professional Bldg. 64106
Kienberger, Paul A., 10605 E. 35th Terr., Independence 64052
Kiene, Richard H., 5835 High Dr., Shawnee Mission, Kan. 66208
Kimball, Merritt H., 610 E. 36th St., 64109
King, J. Tenbrook, 4320 Wornall Rd. 64111
King, Walter R., Professional Bldg. 64106
Kingsbury, Helen, 6415 Sagamore Rd., Shawnee Mission, Kan. 66208
Kirk, Robert V., 6400 Prospect 64132
Kiser, David M., 6700 Troost 64112
Kitchen, William M., 7301 Mission Rd., Shawnee Mission, Kan. 66208
Klein, Edward H., Plaza Medical Bldg. 64112
Klepinger, Dayton P., 826 Warwick Ct., Neosho 64850
Knight, John S., 305 W. 43rd St. 64111
Knight, Lyle B., 615 W. 3rd St., Lee's Summit 64063
Knoch, H. Kermit, Plaza Parkway Bldg. 64112
Koehler, Charles A., 5920 Nall Ave., Shawnee Mission, Kan. 66208
Koontz, Paul G., 4320 Wornall Rd. 64111
Korth, William M., Professional Bldg. 64106
Kraft, Jacob, 6700 Troost 64131
Kranson, Seymour J., 11200 Winner Rd., Independence 64052
Krueger, Haven C., 4320 Wornall Rd. 64111
Kuhn, William F., II, 6247 Brookside Blvd. 64113
Kyger, John E., 3612 Blue Ridge, Independence 64052
Kyner, Thomas A., Wirthman Bldg. 64109
Lally, James J., 4620 Nichols Parkway 64112
Lamar, Robert F., Professional Bldg. 64106
Lambert, L. Marian, 10928 Hillcrest Rd. 64134
Lambie, Rodger W., 701 E. 63rd St. 64110
Landis, George K., Professional Bldg. 64106
Lanning, Richard J., 4320 Wornall Rd. 64111
Lapi, Angelo, 2012 Stratford Rd., Shawnee Mission, Kan. 66208
Lapp, Harry C., 751 E. 63rd St. 64110
Latham, Raymond W., 4620 Nichols Parkway 64112
Lauer, Daniel J., 4320 Wornall Rd. 64111
Layton, Ira C., 6400 Prospect 64132
Lee, George C., P. O. Box 1065 64141
Lee, Henry A., 6700 Troost 64131
Lehner, Richard L., Professional Bldg. 64106
Leifer, William W., 701 E. 63rd St. 64110
Leitch, Cecil G., 808 S. 15th St., Blue Springs 64015
Leitz, Frank B., Professional Bldg. 64106
Lentz, Clark H., BMA Tower 64141
Leo, William A., 6400 Prospect 64132
Levey, Harry B., 701 E. 63rd St. 64110
Lewis, Revis C., 1103 Grand 64106
Lichtor, Alexander, 751 E. 63rd St. 64110
Lichtor, Joseph M., 751 E. 63rd St. 64110
Lieberman, B. Albert, Jr., 4620 Nichols Parkway 64112
Lilly, Terry E., Jr., 1815 E. 63rd St. 64130
Lindgren, Carleton J., 10901 Winner Rd., Independence 64052
Lindquist, Carl N., 106 W. 14th St. 64105
Link, Vance E., 1201 W. 36th St., Independence 64050
Linville, Howard E., 6700 Troost 64131
Littlejohn, Robert T., Professional Bldg. 64106
Lloyd, Ivan E., 1816 Rankin, Independence 64050
Lohrentz, Lois H., 2800 W. 50th Terr., Shawnee Mission, Kan. 66205
Long, R. Stacy, 6400 Prospect 64132
Loutzenhiser, James K., 4643 Wyandotte St. 64112
Lowell, Paul, 4742 Liberty St. 64112
Lowrey, Ford J., 106 W. 96th St. 64114
Lyddon, Harold F., Jr., 75th & Troost 64131
Lytton, George J., 411 Nichols Rd. 64112
McCalla, John P., 1403 E. 76th St. 64131
McCanse, Andrew, 4320 Wornall Rd. 64111
McCarthy, William F., 5712 Northern 64133
McClanahan, Robert C., Professional Bldg. 64106
McConchie, James E., 10901 Winner Rd. Independence 64052
McCoy, Frederick J., 4177 Broadway 64111
McCray, Glen M., 1710 Independence Ave. 64106
McCubbin, Clarence R., 8612 Meadow La., Leawood, Kan. 66206
McCullough, Campbell C., Argyle Bldg. 64106
McCunniff, William B., Argyle Bldg. 64106
McDonald, Victor G., 1710 Independence Ave. 64106
McDonnell, John F., 4320 Wornall Rd. 64111
McEachen, William H., 4320 Wornall Rd. 64111
McFarland, H. Richard, 4320 Wornall Rd. 64111
McFarland, M. Donald, 4320 Wornall Rd. 64111
McGannon, Paul T., 6400 Prospect 64132
McGuire, Thomas H., 429 W. 58th St. 64113
McIntosh, Donald E., 2316 E. Meyer Blvd. 64132
McIntyre, John D., 4516 Cambridge Ct. 64110
McKee, Joseph W., 4320 Wornall Rd. 64111
McKee, Wallace P., 4320 Wornall Rd. 64111
McKnelly, William V., Jr., 4801 E. Linwood Blvd. 64128
McLeod, John, 116 W. 47th St. 64112
McMillan, Thomas E., 6400 Prospect 64132
McNutt, Theodore L., 11201 Colorado 64137
McVay, James R., V.F.W. Bldg. 64111
McVay, James R., Jr., V.F.W. Bldg. 64111
McWherter, Lottie B., Argyle Bldg. 64106
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MacNaughton, Robert A., 3208 W. 101st St., Leawood, Kan. 66206
Mangels, Kenneth A., 1212 W. Truman Rd., Independence 64050
Mantz, Frank A., 4949 Rockhill Rd. 64110
Marks, Mark M., 751 E. 63rd St. 64110
Marsh, Alice, Pleasant Hill 64080
Marshall, Cameron F., Plaza Theatre Bldg. 64112
Martin, Clyde V., 15 E. Gregory Blvd. 64114
Martin, Daniel C., 24th & Cherry Sts., 64108
Masterson, Byron J., 4620 Nichols Parkway 64112
Masucci, Joseph M., Argyle Bldg. 64106
Mathewson, Hugh S., 4620 Nichols Parkway 64112
Maxwell, John A., 316 Rockhill Med. Bldg. 64131
May, James W., 425 E. 63rd St. 64110
Mayer, John H., Jr., Plaza Parkway Bldg., 64112
Medlicott, William J., 4320 Wornall Rd. 64111
Melgaard, S. Ross, 6700 Troost 64131
Meriwether, Don R., 5109 W. 60th Terr., Mission, Kan. 66205
Metzl, Kurt, 701 E. 63rd St. 64110
Meyer, Paul W., 4312 Nichols Parkway 64112
Meyers, Harold L., 1901 Brookwood Rd., Shawnee Mission, Kan. 66208
Miles, George O., 4320 Wornall Rd. 64111
Miller, Clint L., 615 W. 3rd St., Lee's Summit 64063
Miller, Gerald L., 4706 Broadway 64112
Miller, Max I., 4001 W. 66th St., Shawnee Mission, Kan. 66208
Miller, Wilson H., 4620 Nichols Parkway 64112
Mitchell, Andrew D., 4320 Wornall Rd. 64111
Mitchell, Robert H., Bryant Bldg. 64106
Mitra, Nirmal K., 112th Terr. & Grandview Rd. 64134
Mixson, William C., 4320 Wornall Rd. 64111
Montello, Samuel A., 4620 Nichols Parkway 64112
Montgomery, James G., 310 W. 49th St. 64112
Mooney, Justin L., Bryant Bldg. 64106
Mooney, Marcel L., 751 E. 63rd St. 64110
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Mosser, Robert S., 3114 Norton St., Independence 64052
Mount, Allan, 1509 W. Truman Rd., Independence 64050
Muehlberger, James L., 6700 Toost 64131
Mueller, Martin J., 6400 Prospect 64132
Mullen, Leo M., 4443 Paseo Blvd. 64110
Multhauf, Cyril J., 306 E. 12th St. 64106
Mundy, William L., 4635 Wyandotte St. 64112
Murphy, James J., 7546 Troost Ave. 64110
Murphy, Robert J., 4320 Wornall Rd. 64111
Murray, W. Lee, 11201 Colorado 64137
Muth, Robert G., 24th & Cherry Sts. 64108
Myers, John S., 618 Professional Bldg. 64106
Myers, Robert M., Rialto Bldg., 64106
Naime, Mansour J., 6700 Troost 64131
Needels, Orval T., 207 W. 67th Terr. 64113
Nelson, Bentley A., 305 W. 43rd St. 64111
Nesselrode, John H., 10901 Winner Rd., Independence 64052
Newman, Robert L., 6700 Troost 64131
Nickson, Charles E., Jr., 10901 Winner Rd., Independence 64052
Nicolay, Kenneth S., 4320 Wornall Rd. 64111
Nigro, Dominic M., 207 E. 51st Terr. 64112
Nigro, E. Robert, 415 W. 55th St. 64113
Nigro, Joseph A., 1055 W. 55th St. 64113
Noback, Richardson K., 24th & Cherry Sts. 64108
Noltensmeyer, Milton N., 3305 W. 50th Terr., Shawnee Mission, Kan. 66208
Nunn, Pat M., 3418 Karnes Blvd. 64111
O'Farrell, Thomas P., 6400 Prospect 64132
Ogilvie, John H., Box 157, Route 1, Gravois Mills 65037
O'Hearne, John J., 800 W. 47th St. 64112
O'Kell, Richard T., 1710 Independence Ave. 64106
O'Malley, James F., 6700 Troost 64131
O'Neil, James H., 425 E. 63rd St. 64110
Ost, Mark D., 16 W. 115th St. 64115
Overesch, Harry B., 6400 Prospect 64132
Owens, Graham J., 152 W. Mezzanine, Union Station 64108
Owens, Hugh H., 5736 Rockhill Rd., 64110
Owens, Richard L., 9228 E. Highway 50 64133
Owens, Robert H., 6700 Troost 64131
Owre, Alfred, Jr., 2200 McCoy St. 64108
Ozar, Milton B., 6700 Troost 64131
Padfield, Earl G., Jr., Plaza Broadway Bldg. 64112
Pakula, Sidney F., 751 E. 63rd St. 64110
Pallett, Harold A., 4620 Nichols Parkway 64112

Parelman, Allen G., 701 E. 63rd St. 64110
Parker, Elmer L., 3027 Campbell St. 64109
Parker, Hubert M., Argyle Bldg. 64106
Parsons, Eugene O., 315 Nichols Rd. 64112
Passman, Harold, 701 E. 63rd St. 64110
Pearson, Paul E., 31st and Wyandotte 64108
Peete, Don C., Professional Bldg. 64106
Penner, Stanley, 751 E. 63rd St. 64110
Pentecost, Richard L., 2200 McCoy St. 64108
Perico, Carlos J., 4000 Baltimore 64111
Perll, Maurice F., 6700 Troost 64131
Perll, Rita D., 830 W. 61st Terr. 64113
Perry, Ralph, 6400 Prospect 64132
Petersen, A. Gene, 7721 State Line 64114
Petersen, Gerald D., 411 Nichols Rd. 64112
Peterson, Carl M., 2701 E. 31st St. 64128
Peterson, George L., 4806 W. 68th St., Shawnee Mission, Kan. 66208
Peterson, Milton C., 6400 Prospect 64132
Peterson, Walter R., 2701 E. 31st St. 64128
Petitt, Robert M., 4320 Wornall Rd. 64111
Petry, Ezra L., 701 E. 63rd St. 64110
Pfuetze, Edwin L., Plaza Parkway Bldg. 64112
Philp, John R., 414 E. 12th St. 64106
Pickard, Nicholas S., 6210 High Dr., Shawnee Mission, Kan. 66208
Pickens, Edgar E., 4826 Roanoke Parkway 64112
Pierron, John B., 6516 Linden Rd. 64113
Pinsker, Oscar T., 751 E. 63rd St. 64110
Piper, Donald K., 6700 Troost 64131
Pipkin, Garrett F., Argyle Bldg. 64106
Polk, George M., 12112 E. 52nd Terr. 64133
Pollock, Leo H., 751 E. 63rd St. 64110
Pope, Charles H., Jr., 1509 W. Truman Rd., Independence 64050
Porter, Louis, 751 E. 63rd St. 64110
Poser, Charles M., 616 W. Meyer Blvd. 64113
Potter, Lee G., Professional Bldg. 64106
Potts, Donald A., 10901 Winner Rd., Independence 64052
Powell, Nelson E., 4400 Nichols Parkway 64111
Powers, John M., 3304 Linwood Blvd. 64128
Prentiss, Harry S., 6832 Sni-A-Bar Rd. 64129
Preston, Albert, Jr., 4320 Wornall Rd. 64111
Printz, Joseph H., 701 E. 63rd St. 64110
Printz, Otto J., 701 E. 63rd St. 64110
Pucci, Gregory L., 411 Nichols Rd. 64112
Pugh, Richard G., 1612 W. Truman Rd., Independence 64050
Quer, Erich A., 6400 Prospect 64132
Quistgard, Paul C., 7300 Manchester 64133
Rader, Ada B., 13414 Locust St. 64145
Raich, Robert A., 4320 Wornall Rd. 64111
Ramey, Ehret O., 4635 Wyandotte St., 64112
Ramos, John F., Jr., 2849 Indiana 64128
Rannie, Paul R., 709 S. Fuller St., Independence 64052
Rector, Joe L., Jr., St. Luke's Hosp. 64111
Reinhardt, George R., 6400 Prospect 64132
Reister, Philip D., 1815 E. 63rd St. 64130
Reitz, Carl H., 7329 Broadway 64114
Remley, George C., 4134 S. Benton 64130
Reynolds, Clarence C., 3842 E. 63rd Terr. 64130
Rhoades, Arthur B., Professional Bldg. 64106
Richardson, Marion W., 2526 Prospect 64127
Richert, Robert C., 504 W. 96th St. 64114
Riley, Joseph P., Jr., Parthenon, Ark. 72666
Riller, Lowell E., Professional Bldg. 64106
Roberts, Grosvenor G., 6700 Troost 64131
Roberts, Harold M., Professional Bldg. 64106
Robinson, Arthur W., 4320 Wornall Rd. 64111
Robinson, E. Kip, Professional Bldg. 64106
Robinson, G. Wilse, Jr., 15 E. Gregory Blvd. 64114
Robinson, William J., 9931 Lee Circle, Leawood, Kan. 66206
Robison, James T., Jr., 4620 Nichols Parkway 64112
Rodgers, George H., 10041 El Monte Lane, Overland Park, Kan. 66207
Rodgers, Samuel U., 2701 E. 31st St. 64128
Rogers, Robert L., 751 E. 63rd St. 64110
Rose, Charles W., 334 S. Van Brunt 64124
Rubin, Sidney, 1287 W. 72nd St. 64114
Rubnitz, Leon H., 751 E. 63rd St. 64110
Rufe, John R., Bryant Bldg. 64106
Russell, James L., 1250 W. 56th St. 64113
Russell, Robert K., 63rd & Evanston, Raytown 64133
Sabates, Felix N., 6700 Troost 64131
Saferstein, A. Lester, 6859 Cherry 64131
Saladino, Anthony, Argyle Bldg. 64106
Samuelson, Edward A., 4620 Nichols Parkway 64112
Sanders, Donald C., 15 E. Gregory Blvd. 64114
Sanders, Harmon U., Jr., 2246 Rhode Island, Lawrence, Kan. 66044
Sanders, William F., 411 Nichols Rd. 64112
Sandow, Theodore L., Jr., 4320 Wornall Rd. 64111
Santoro, Carlos G., 1103 Westport Rd. 64111
Saper, Philip, 3 E. 3rd St., Lee's Summit 64063
Sasano, Joseph R., Jr., 1710 Independence Ave. 64106
Sauer, Gordon C., 6400 Prospect Ave. 64132
Saunders, Everett L., 121 W. Lexington, Independence 64050
Scales, Margaret B., 6601 Rockhill Rd., 64110
Schaerrer, William C., 4320 Wornall Rd. 64111
Schiffmacher, Jack E., Professional Bldg. 64106
Schillie, Gene A., 6400 Prospect 64132
Schmidt, C. Robert, 6400 Prospect 64132
Schoolman, Arnold, 6700 Troost 64131
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Schutz, Richard B., 411 Nichols Rd. 64112
Seely, Clark W., 4320 Wornall Rd. 64111
Sells, Kenneth J., 5100 E. 24th St. 64127
Sewell, Minor F., 1722 W. 39th St. 64111
Shalet, Malcolm F., 425 E. 63rd St. 64110
Shapiro, Lazare M., 701 E. 63rd St. 64110
Sheahon, John A., 6706 Raytown Rd. 64133
Shecter, Nathan, 701 E. 63rd St. 64110
Shelden, Russell D., 6400 Prospect 64132
Shifrin, Alexander, 6700 Troost 64131
Shireman, Kenneth L., 4606 St. John 64123
Shires, Edward B., 3600 Troost Ave. 64109
Shockley, Clarence J., 5927 McGee 64113
Shofstall, Charles K., 310 W. 47th St. 64112
Shopfner, Charles E., 1710 Independence 64106
Shuey, Herbert H., 3903 Brooklyn 64130
Shypper, Moses J., 751 E. 63rd St. 64110
Silverstein, Martin E., 5355 Mission Woods Rd., Shawnee Mission, Kan. 66208
Simmons, Donald D., 600 E. 22nd St. 64108
Simon, Sanford, 8129 Rosewood, Shawnee Mission, Kan. 66208
Sinclair, Alexander B., 920 W. 47th St. 64112
Singleton, John M., III, 411 Nichols Rd. 64130
Skillman, Robert K., 4320 Wornall Rd. 64111
Skinner, John T., Bryant Bldg. 64106
Slankard, Edward, 4320 Wornall Rd. 64111
Slentz, Edwin L., 4320 Wornall Rd. 64111
Slentz, William A., 4320 Wornall Rd. 64111
Slickman, R. A., 6700 Troost 64131
Smith, Arthur B., 6400 Prospect Ave. 64132
Smith, Dale C., 4320 Wornall Rd. 64111
Smith, Edwin I., 1710 Independence Ave. 64106
Smith, H. Eugene, 411 Nichols Rd. 64112
Smith, Ira T., 6400 Prospect 64132
Smith, Katherine W., 801 W. 58th Terr. 64113
Smith, O. D., 6300 Woodson, Mission, Kan. 66202
Smith, Wallace B., 10901 Winner Rd., Independence 64052
Smull, Ned W., 2318 W. 70th Terr. Shawnee Mission, Kan. 66208
Sneid, Philip, 701 E. 63rd St. 64110
Snider, Wilbur R., 10901 Winner Rd., Independence 64052
Somoza, Jose, 6614 Indiana 64132
Spafford, Allen L., 315 Nichols Rd. 64112
Spalding, Wilber B., Jr., 1102 Grand 64106
Spencer, Donald M., 604 West Maple, Independence 64050
Spies, Barbara J., 11201 Colorado 64137
Spurny, Otto M., 425 E. 63rd St. 64110
Stacey, Wallace R., 2116 S. Sterling Ave., Independence 64052
Staggs, William A., Argyle Bldg. 64106
Staley, Harry R., Bryant Bldg. 64106
Starke, Helen, 2020 Olathe Blvd., Kansas City, Kan. 66103
Statland, Harry, 751 E. 63rd St. 64110
Statland, Morris, 751 E. 63rd St. 64110
Steffen, Lawrence F., 4706 Broadway 64112
Stegman, Elmer G., 6137 Blue Ridge Blvd., Raytown 64133
Stein, Joseph W., 1103 Grand Ave., 64106
Stelle, Charles W., Box 1159, The Bendix Corp. 64141
Stelmach, Walter J., 6700 Troost 64131
Stockton, Raymond W., 4320 Wornall Rd. 64111
Stockwell, A. Lloyd, Professional Bldg. 64106
Stone, Raymond F., 6700 Troost 64131
Stotts, Charles S., R.R. 4, Fredonia, Kan. 66736
Stratemeier, Edward H., 31st & Wyandotte 64108
Strauss, Carl F., 701 E. 63rd St. 64110
Stribling, Thomas L., 2116 S. Sterling Ave., Independence 64052
Summers, Caldwell B., Plaza Theatre Bldg. 64112
Sutton, Richard L., Jr., 411 Nichols Rd. 64112
Swisher, Robert C., 425 E. 63rd St. 64110
Switzer, Clyde, 8100 W. 54th Terr., Overland Park, Kan. 66202
Sword, Richard O., 800 W. 47th St. 64110
Szabados, Ernest D., 1612 W. Truman Rd., Independence 64050
Tarson, Solomon S., 5511 W. 85th St., Overland Park, Kan. 66207
Tasker, Charles B., 31st & Wyandotte 64108
Teare, Max E., 600 E. 22nd St. 64108
Terrill, Robert S., 800 W. 47th St. 64112
Tesson, James A., Rialto Bldg. 64106
Theel, Otto W., Jr., 4301 Main 64111
Thiele, George H., 411 Nichols Rd. 64112
Thomas, Christopher Y., 4320 Wornall Rd. 64111
Thompson, Charles L., 4320 Wornall Rd. 64111
Threlkeld, William L., Jr., APCM, BP 117, Luduabourg via Leopoldville, Congo
Tice, Wayne K., 1509 W. Truman Rd., Independence 64050
Totten, Frederick E., 6700 Troost 64131
Trimble, George X., 101 Memorial Dr. 64108
Trippe, Harrison C., 317 W. 51st St. 64112
Troeh, Melvin R., 10901 Winner Rd., Independence 64052
Trowbridge, Barnard C., 415 E. 63rd St. 64110
Trowbridge, Ellsworth H., Jr., 411 Nichols Rd. 64112
Turner, Ronald M., 10901 Winner Rd., Independence 64052
Tutera, Dominic F., Plaza Medical Bldg. 64112
Tuthill, Herbert, 1037 W. 71st Terr. 64114
Twin, Edward J., 701 E. 63rd St. 64110
Twyman, Richard A., 4320 Wornall Rd. 64111
Underwood, Dick H., 6700 Troost 64131
Underwood, Harry A., 5100 E. 24th St. 64127
Underwood, Johnson, Jr., Professional Bldg. 64106
Underwood, Ross H., 6700 Troost 64131
Unger, Harold, 701 E. 63rd St. 64110
Upsher, Albert E., Box 2778, 64106
Valins, Eugene, 751 E. 63rd St. 64110
Van Biber, James T., 1612 W. Truman Rd., Independence 64050
Van Buskirk, Terrance E., 5246 St. John 64123
Van Buskirk, William C., 6700 Troost 64131
Vaughn, James W., 2625 W. Paseo 64108
Vermeire, David A., 10 Richards Rd. 64116
Vilmer, Charles, Professional Bldg. 64106
Vincent, Jack C., 701 E. 63rd St. 64110
Virden, Herbert H., 6700 Troost 64131
Viril, Leonardo C., 4706 Broadway 64112
Voth, Harold W., 4320 Wornall Rd. 64111
Wade, Frederick E., Professional Bldg. 64106
Wagner, Paul J., 2826 Main 64108
Wakefield, Franklin H., 1102 Grand 64106
Walker, James C., 2727 Main 64108
Walker, John W., 6400 Prospect 64132
Walker, Orville C., Jr., 10901 Winner Rd. Independence 64052
Wall, Harry C., 751 E. 63rd St. 64110
Wall, Leonard A., 4320 Wornall Rd. 64111
Watson, Ethel, First National Bank Bldg. Independence 64050
Waxman, David, 4840 Prospect 64130
Waxman, Jane Z., 4840 Prospect 64130
Webb, Harry E., 330 W. 47th St. 64112

Weiford, Edward C., 4320 Wornall Rd. 64111
Wells, James A., 600 E. 45th St. 64110
Wells, John H., 3325 Prospect 64128
Weltscheff, Christo A., 1800 Blue Ridge Ext. 64146
Wheeler, Charles B., 4320 Wornall Rd. 64111
Wheeler, John H., 4320 Wornall Rd. 64111
White, Charles H., 6700 Troost 64131
White, George A., 3416 Paseo Blvd. 64109
White, James S., 2849 Indiana 64128
White, Stoughton F., 4320 Wornall Rd. 64111
White, William E., 216 Research Med. Office Bldg. 64132
Whiteman, John R., 6314 Brookside Plaza 64113
Whitman, Doyle C., 18 E. 11th St. 64106
Whitmore, J. Stewart, 1039 W. 58th St. 64113
Whittaker, Charles K., 4320 Wornall Rd. 64111
Wien, Irving A., 1103 Grand 64106
Wilhelm, Warren F., 6400 Prospect 64132
Wilkinson, Charles B., 4604 Benton Blvd. 64130
Wilkinson, Everett A., 6400 Prospect 64132
Williams, Frank R., 4320 Wornall Rd. 64111
Williams, George P., 10604 Blue Ridge Ext. 64134
Williams, Joseph C., Jr., 6400 Prospect 64132
Williams, Roland D., 305 W. 43rd St. 64111
Williams, Starks J., 5600 Agnes 64130
Williams, Vincent T., Argyle Bldg. 64106
Williamson, George L., Professional Bldg. 64106
Wiliits, Lyle G., Professional Bldg. 64106
Willoughby, James W., 1125 Grand 64106
Willoughby, Jean B., 6400 Prospect 64132
Wilson, Clifford C., Plaza Time Bldg. 64112
Wilson, Hester J., Plaza Time Bldg. 64112
Winer, Herbert J., 751 E. 63rd St. 64110
Winkelman, Esther B., 7449 Broadway 64114
Winston, Bernard H., 751 E. 63rd St. 64110
Wise, George W., 4620 Nichols Parkway 64112
Withers, Orval R., Plaza Parkway Bldg. 64112
Wolf, Jack W., 425 E. 63rd St. 64110
Woodman, Grey M., 2200 McCoy St. 64108
Woods, Harold V., 1405 W. 40 Hwy., Blue Springs 64015
Woods, S. Dwight, 4320 Wornall Rd. 64111
Woods, Walton C., Medical Dept. TWA, Midcontinent Intl. Airport 64108
Woodward, William W., 10901 Winner Rd. Independence 64052
Workman, Charles E., Professional Bldg. 64106
Wortmann, Robert F., 6400 Prospect 64132
Wright, R. Paul, Professional Bldg. 64106
Wu, William Q., 6700 Troost 64131
Wurster, W. Joel, 305 W. 43rd St. 64111
Yohe, Ruth M., 1710 Independence Ave. 64106
Youll, Donald V., 6700 Troost 64131
Youmans, Ronald A., 415 E. 63rd St. 64110
Young, James E., 4320 Wornall Rd. 64111
Young, Jesse W., 1401 Southwest Blvd., Kansas City, Kan. 66103
Young, Paul R., 7424 Gregory Circle 64133
Youngblood, James P., 4620 Nichols Parkway 64112
Zacharias, David L., St. Joseph Hosp., Linwood Blvd. at Prospect 64128
Zahony, Ivan, 4409 W. 93rd St., Prairie Village, Kan. 66207
Zellermayer, Jacob, 701 E. 63rd St. 64110

JASPER COUNTY MEDICAL SOCIETY (Joplin)

Adams, Robert B., Jr., Medical Arts Bldg. 64801
Allen, David O., 2525 S. Jackson 64803
Barnett, Norman H., 25th & Jackson 64803
Birsner, Frank H., 1717 River, Carthage 64836
Burch, John E., Medical Arts Bldg. 64801
Carnes, Victor M., Medical Arts Bldg. 64801
Chase, Ned B., Jr., 3125 Virginia St. 64803
Chesney, George W., 25th & Jackson 64803
Cohle, Richard R., Carthage 64836
Craig, Irvin T., 25th & Jackson 64803
Crawford, Archie L., Frisco Bldg. 64801
Crispell, Lawrence S. 6th & Pearl 64801
DeTar, B. E., Jr., 18023 Oakwood Blvd, Dearborn, Mich. 48124
DeTar, Burleigh E., 410 Jackson 64801
Eliscu, Juliette M., 2002 Jackson 64803
Esther, John R., Ferguson's Med. Laboratories 64801
Ferguson, Lewis H., Jr., 604 Plaza Dr. 64803
Ferguson, Ralph L., Medical Arts Bldg. 64801
Ferguson, Robert M., 110 N. Webb, Webb City 64870
Fritsch, Andrew J., 2920 Pearl 64803
Graves, F. Burton, c/o Sherri Graves, Tanner Hall, Pittsburg, Kan. 66762
Grubb, Paul H., 2509 Jackson 64803
Hall, Marvin F., Medical Arts Bldg. 64801
Hamilton, Eugene H., Medical Arts Bldg. 64801
Holtzman, Samuel, Medical Arts Bldg. 64801
Hornback, Edward R., Frisco Bldg. 64801
Hurst, Wilfred W., Medical Arts Bldg. 64801
Isbell, Charles H., Carthage 64836
Jeans, Virgil, Medical Arts Bldg. 64801
Kirschman, Robert E., 2529 Jackson 64803
Koehler, John W., Medical Arts Bldg. 64801
Kuhn, John R., Jr., Frisco Bldg. 64801
Laney, Ronald L., 3140 Ocean, Carlsbad, Calif. 92008
Longenecker, Joe L., 2503 Jackson 64803
McNew, William T., Carthage 64836
McPike, Lloyd H., Frisco Bldg. 64801
Mack, Mary L. (Address Unknown)
MacLaughlin, James C., Medical Arts Bldg. 64801
Maddox, John D., 6th & Pearl 64801
O'Brien, James A., 545 N. 6th St., Muskogee, Okla. 74401
Paddock, Charles S., Medical Arts Bldg. 64801
Papp, Sandor D., Medical Arts Bldg. 64801
Patterson, Donald R., 2509 Jackson 64803
Patterson, Grover S., 510 S. Main, Carthage 64836
Pence, F. Wendell, 612 S. Main, Carthage 64836
Poor, Carl W., Rt. 1, Box 302, Neosho 64850
Post, Winfred L., 617 Joplin 64801
Powell, Robert G., 2329 Jackson 64803
Royce, James J., Sarcoxie 64862
Schmidt, Herbert J., Medical Arts Bldg. 64801
Schoeberl, Cletus B., Medical Arts Bldg. 64801
Schulte, Gregory A., 2125 Jackson 64803
Scorse, Sidney W., 2509 Jackson 64803
Shanahan, Mary P., 2001 Sergeant Ave. 64801
Smith, Roland T., Medical Arts Bldg. 64801
Smith, William R., 211 E. Chestnut, Carthage 64836
Walker, Paul W., Medical Arts Bldg. 64801
Wetzel, Fred S., Jr., 409 Auburn Dr., Little Rock, Ark. 72205
Whitten, M. Foster, 616 W. Centennial, Carthage 64836
Wieman, Harry K., Medical Arts Bldg. 64801
Wilcox, Ruth E., 614a Joplin 64801
Wilson, Alice H., 1923 Sergeant 64803
Wood, George H., 1515 Hazel, Carthage 64836
Wooldridge, Bart F., Medical Arts Bldg. 64801
Young, Calvin C., Jr., Medical Arts Bldg. 64801

JEFFERSON COUNTY MEDICAL SOCIETY

Allbec, Roger H., Crystal City 63019
Bolgar, Bertalan, Festus 63028
Carron, Joseph F., Arnold 63010
Deles, Vincente D., Crystal City 63019
Donnell, Harold E., Desoto 63020
Donnell, Robert H., Crystal City 63019
Donnell, Thomas A., Desoto 63020
Edwards, Waldo B., 135 W. Adams Ave., Kirkwood 63122
Fallet, Charles E., Desoto 63020
Ibaviosa, Alfred C., Crystal City 63019
Judge, Walter T., Crystal City 63019
Kozal, Francis L., Crystal City 63019
McKinstry, Karl V., Desoto 63020
Mayfield, James L., Crystal City 63019
Rice, Carl E., Hillsboro 63050
Rutledge, John F., Festus 63028
Senn, Emmett J., Herculaneum 63048
Yoskit, Harry, Festus 63028

JOHNSON COUNTY MEDICAL SOCIETY (Warrensburg 64093)

Cada, Edward G., Warrensburg
Cooper, R. Lee, Warrensburg
Damron, Oscar H., Warrensburg
Folkner, A. L., Warrensburg
Frein, Donald E., Leeton 64761
Gonzalez, M. Garza, Warrensburg
Grove, Gulph W., Knobnoster 65336
Harkness, Harry, Warrensburg
Johnson, Charles S., Warrensburg
Jones, Keith D., Warrensburg
Lederer, Charles M., Warrensburg
Maxson, T. Reed, Warrensburg
Rawlins, Kelly, Holden 64040
Shipp, Robert H., Hohenwald, Tenn. 38462

KNOX COUNTY (North Central Counties Medical Society)

LACLEDE COUNTY (Mid-Missouri County Medical Society)

LAFAYETTE-RAY COUNTY MEDICAL SOCIETY

Baldwin, Theodore R., Lawson 64062
Best, Robert, Higginsville 64037
Boydston, Catherine, Odessa 64076
Boydston, W. Wayne, Odessa 64076
Brady, Hugh S., Concordia 64020
Brasher, Ben H., Lexington 64067
Cook, Thomas B., Richmond 64085
Cope, Joseph S., Lexington 64067
Crayton, Billy G., Waverly 64096
Crozier, Franklin A., Richmond 64085
Davault, George K., Richmond 64085
Fulkerson, Wilbur E., Higginsville 64037
Goldberg, Isadore E., Braymer 64624
Huber, K. Herbert, Richmond 64085
Kelling, Douglas G., Waverly 64096
Kelling, Jordan, Waverly 64096
Koppenbrink, Walter E., Jr., Higginsville 64037
LaHue, William C., Lexington 64067
Liston, Odus, Oak Grove 64075
McFadden, Gene A., Waverly 64096
Martin, Wilfred E., Odessa 64076
Riley, Charles T., Richmond 64085
Thomas, Thomas C., Buckner 64016
Ward, Joe, Lexington 64067
Williams, John W., Oak Grove 64075

LAWRENCE COUNTY (Ozarks Medical Society)

LEWIS-CLARK-SCOTLAND COUNTIES MEDICAL SOCIETIES

Davis, Landis Y., Canton 63435
Gilfillan, Earl E., Memphis 63555

LINCOLN-ST. CHARLES COUNTY MEDICAL SOCIETY (St. Charles 63301)

Barnette, Eugene, 2850 W. Clay St.
Berry, Paul T., 370 E. Wood, Troy 63379
Canty, Eugene J., 114 N. Main
Clever, Henry W., Jr., 1301 Boonslick Rd.
Commerford, John F., 1301 Boonslick Rd.
Cottey, John H., 222 S. 2nd St.
Creech, Joseph C., Troy 63379
Crider, Russell J., 222 S. 2nd St.
Damron, Edward O., Elsberry 63343
Duling, Gerald J., 2850 W. Clay St.
DuMontier, R. J., O'Fallon 63366
Felder, James P., 3008 W. Adams
Fleming, Robert J., 120 Clay
Goldkamp, John D., 2850 W. Clay St.
Gore, Glenn L., 2850 W. Clay St.
Hammes, Roman E., 2850 W. Clay St.
Hanlon, Russell C., 1301 Boonslick Rd.
Hetlage, Louis P., Troy 63379
Hurd, James R., 207 N. 5th
Kamada, Tsutomu, 105 W. Pitman, O'Fallon 63366
Keller, Robert M., 704 W. Old Hwy. 40, Wentzville 63385
Kister, George E., 302 S. 2nd St.
Linsenmeyer, Charles M., 119 Clay St.
Muenster, Vincent P., 2850 W. Clay St.
Neubeiser, Ben L., 2nd & Clay Sts.
Perna, Vincent P., 100 N. Euclid Ave. St. Louis 63108
Poggemeier, William H., Jr., 302 S. 2nd St.
Randall, Don Q., 220 S. 6th St.
Ridzon, Thomas J., 2850 W. Clay St.
Roach, Edward A., 2850 W. Clay St.
Roter, Alexander M., 2414 W. Clay
Rother, Paul H., 1301 Boonslick Rd.

Schneider, Thomas A., 2850 W. Clay St.
Schuetz, Alfred, 1301 Boonslick Rd.
Scokel, Paul W., III, 2850 W. Clay St.
Slotkin, Robert J., 2850 W. Clay St.
Smoller, Martin B., 2850 W. Clay St.
Thiele, O. K., 140 N. Kingshighway
Towers, Orville W., 1301 Boonslick Rd.
Westerfeld, Roy A., 1301 Boonslick Rd.
Wipfler, Earl J., Jr., 143 Cardinal La.
Yaeger, Gerald A., 2444 W. Clay St.

LINN COUNTY

(Grand River Medical Society)

LIVINGSTON COUNTY

(Grand River Medical Society

McDONALD COUNTY

(Ozarks Medical Society)

MACON COUNTY

(Chariton-Macon-Monroe-Randolph County Medical Society)

MADISON COUNTY

(Mineral Area County Medical Society)

MARIES COUNTY

(Mid-Missouri County Medical Society)

MARION-RALLS-SHELBY COUNTY MEDICAL SOCIETY

(Hannibal 63401)

Archer, Perry C., Shelbyville 63469
Bach, Lysle M., 1734 Market St.
Burns, Francis R., 711 Grand
Clisham, John F., B & L Bldg.
Dodson, Danny L., 400 N. Main, Monroe City 63456
Fischer, Thomas J., 2910 St. Mary's
Foreman, Phillip B., 711 Grand
Francka, W. F., 603 Country Club Dr.
Glascock, Donald W., Box 51, V.A. Hosp., Iowa City, Ia. 52240
Grant, Albert J., 115 N. 5th St.
Greene, Harry L., Holmes Bldg.
Hamlin, Wyeth, 711 Grand
Hinds, R. David, 2910 St. Mary's
Landau, Daniel B., 711 Grand
Lanning, Robert J., 115 N. 5th St.
Latimer, Walter N. A., B & L Bldg.
Lichty, Charles A., Shelbina 63468
Lucke, Eugene M., Court House
Mann, James K., 4074 Hillside Dr.
Murphy, Bernard L., 2000 Crescent Dr.
Plowman, Edward M., B & L Bldg.
Purcell, P L., Smithville 64089
Rapp, Earl L., 711 Grand
Roller, Merrill J., 2910 St. Mary's
Steele, James C., Jr., 711 Grand
Strong, Richard M., 711 Grand
Sweets, Henry H., Jr., 1003 Broadway
Walterscheid, John H., 1209 Broadway
Well, Julius W., Palmyra 63461

MERCER COUNTY

(Grand River Medical Society

MID-MISSOURI COUNTY MEDICAL SOCIETY

(Phelps-Crawford-Dent-Pulaski-Maries-Laclede Counties)

Andreassen, Dimil F., Rolla 65401
Bass, Billy J., Salem 65560
Baumann, Albert R., Steelville 65565
Beene, Thomas K., Lebanon 65536
Butts, James D., Rolla 65401
Carnell, B. M., Camdenton 65020
Carrington, Howard W., Lebanon 65536
Dean, Howard Y., 57 Jadwin Dr., Ft. Leonard Wood 65475
Dierker, H. D., Lebanon 65536
Drake, Avery A., Rolla 65401
Elders, Frank A., Jr., Cuba 65453
Feind, Earl E., Rolla 65401
Froelich, Rae W., Lebanon 65536
Garrison, T. W., Camdenton 65020
Hammler, Christiana V., St. James 65559
Hart, Martin M., Salem 65560
Hite, Dennis E., Lebanon 65536
Holley, Donald B., Camdenton 65020
Hope, James L., Lebanon 65536
Kays, Kenneth M., St. James 65559
Kielar, Richard A., 45 Wheeler, Ft Leonard Wood 65475
Longo, D. V., Lebanon 65536
Lytle, William R., Rolla 65401
Miller, Clyde S., Waynesville 65583
Mitchell, Roy E., Salem 65560
Myers, James M., Rolla 65401
Reeves, Lane A., Rolla 65401
Riffel, Gordon W., Bourbon 65441
Russell, Barbara E., Rolla 65401
Stager, David R., 43 McKenzie St., Ft. Leonard Wood 65473
Striker, Emil A., St. James 65559
Stumpf, Stanley E., Lebanon 65536
Young, Robert B., Rolla 65401

MILLER COUNTY MEDICAL SOCIETY

Buehler, Carl T., Jr., Eldon 65026
Shelton, Edward O., Eldon 65026

MINERAL AREA COUNTY MEDICAL SOCIETY

(St. Francois-Iron-Madison-Washington-Reynolds Counties)

Appleberry, Charles H., Rivermines 63668
Brennan, John A., Farmington 63640
Bugg, Andrew F., 312 E. 3rd St., Lordsburg, N. M. 88045
Bull, Ben M., Ironton 63650
Burcham, Tom R., Jr., Farmington 63640
Carleton, Charles E., Jr., Farmington 63640
Chastain, Charles W., Farmington 63640
Cresswell, George F., Potosi 63664
Crouch, F. Richard, Farmington 63640
Dennis, W. Paul, Flat River 63601
Dettmer, Robert F., Ironton 63650
Farmer, Norma D., Farmington 63640
Farrar, Charles B., 719 N. Middle St., Cape Girardeau 63701
Ford, William, Farmington 63640
Foster, Jack L., Desloge 63601
Gaskins, Charles W., Ironton 63650
Grossman, Marvin, Fredericktown 63645
Hardy, Stanton L., Desloge 63601
Harland, Robert E., Ironton 63650
Haw, Marvin T., Jr., 1807 Jackson, Columbia 65201
Hoctor, Emmett F., Farmington 63640
Huckstep, Robert A., Farmington 63640
Hunt, John W., Jr., Farmington 63640
Karraker, Alvan G., Farmington 63640
Marten, Sue, Viburnum 65566
Menne, Marvin C., Ironton 63650
Michaelis, Charles E., 264 Vallejo Dr., Glendale, Calif. 91206
Mullen, Jack, Bonne Terre 63628
Oliver, George A., Farmington 63640
Osborn, Retus W., III, Farmington 63640
Patton, William G., 1955 Kerns Ave., San Marino, Calif. 91108
Slaughter, Shelby C., Fredericktown 63645
Taylor, Van W., Bonne Terre 63628
Turner, Kirby L., Potosi 63664
Vester, James E., Bismarck 63624
Warren, T. Thomas, Potosi 63664
Watkins, George L., Jr., Farmington 63640

MISSISSIPPI COUNTY

(SEMO County Medical Society)

MONITEAU COUNTY MEDICAL SOCIETY

(California 65018)

Fulks, Richard B., California
Gallagher, Lionel M., California
Kibbe, Edgar A., California
Latham, Kenyon S., California

MONROE COUNTY

(Chariton-Macon-Monroe-Randolph County Medical Society)

MONTGOMERY COUNTY MEDICAL SOCIETY

Andersen, Elmer J. T., Montgomery City 63361
Byland, Samuel J., Wellsville 63384
Helm, James O., New Florence 63363
Steinbeck, Herbert F., Medical Bldg., Montgomery City 63361

MORGAN COUNTY MEDICAL SOCIETY

(Versailles 65084)

Gunn, Jack, Versailles
Kauffman, Ruth, Versailles
Lyle, Robert R., Versailles
Washburn, J. Loren, Versailles

NEW MADRID COUNTY

(SEMO County Medical Society)

NEWTON COUNTY

(Ozarks Medical Society)

NORTH CENTRAL COUNTIES MEDICAL SOCIETY

(Adair-Schuyler-Knox-Sullivan-Putnam Counties)

(Kirksville 63501)

Buben, Robert W., Kirksville
Cramb, Arthur B., 216 S. Lake Ave., Lakeland, Fla. 33801
English, Milton T., Jr., Kirksville
Freeman, Spencer L., Kirksville
Grim, Edward M., Kirksville
Hasselblad, Oliver W., 297 Park Ave., South, New York, N. Y. 10011
Hilton, Paul E., Kirksville
Isom, Waldo B., Knox City 63446
Jones, John B., Kirksville
Stickler, Ralph O., Kirksville
Tarvydas, Francis, Edina 63537
Tendai, Mark M., Kirksville

NORTHWEST MISSOURI MEDICAL SOCIETY

(Nodaway-Holt-Achison-Gentry-Worth Counties)

Bare, Edward F., Tarkio 64491
Bauman, Henry C., Maryville 64468
Blacklock, David E., King City 64463
Byland, Benjamin F., Maryville 64468
Carlin, Albert L., Stanberry 64489
Carpenter, Wallace, Rock Port 64482
Dunshee, Robert E., Maryville 64468
Humphrey, James, Mound City 64470
Imes, Elvin D., Maryville 64468
Jackson, William R., Maryville 64468
Matteson, Frank B., Grant City 64456
Morgan, Troy O., Jr., Albany 64402
Niedermeyer, Edward L., Tarkio 64491
Parsons, Bernie, Albany 64402
Perry, David C., Mound City 64470
Wanamaker, John M., Rock Port 64482
Wempe, G. Raymond, Maryville 64468

OREGON COUNTY

(South Central Counties Medical Society)

OSAGE COUNTY

(Unorganized)

OZARK COUNTY

(South Central Counties Medical Society)

OZARKS MEDICAL SOCIETY

(Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald Counties)

Alsup, Frederick F., RFD 1, Box 982, Belen, N. M. 87002
Anderson, Paul B., Neosho 64850
Blankenship, George W., Neosho 64850
Bowman, Melvin C., Neosho 64850
Brasher, Charles A., Mt. Vernon 65712
Brown, Frederick B., Aurora 65605
Capetti, Alex P., Crane 65633
Carter, James R., Neosho 64850
Coffman, Esther E. L., 1514 13th North, Lakeworth, Fla. 33460
Cohnberg, Rosellen E., Neosho 64850
Cortez, Willie S., Mt. Vernon 65712
Cowan, R. D., Aurora 65605
Crain, James W., Branson 65616
Dabbs, Wilbur D., Neosho 64850
Donley, Robert R., Monett 65708
Edwards, Francis L., Monett 65708
Evans, Harry T., Branson 65616
Gardner, Joseph W., Reeds Spring 65737
Gillespie, Roy, Branson 65616
Glass, William J., Jr., Monett 65708
Glover, Kenneth, Mt. Vernon 65712
Graves, Arthur J., Mt. Vernon 65712
Hamilton, William P., Aurora 65605
Hellweg, Charles E., Mt. Vernon 65712
Kelsey, Kenneth L., Aurora 65605
Kenney, Roy E., Neosho 64850
Kerr, Frank T., Monett 65708
Lentz, Harold C., Neosho 64850
Magness, William C., Branson 65616
Mars, Hartley F., Forsyth 65653
Moore, Allen H., Jr., Branson 65616
Morrison, T. A., Aurora 65605
Newman, Mary Jane, Cassville 65625
Olive, George C., Neosho 64850
Price, Charles H., Cassville 65625
Reynolds, James R., Neosho 64850
Rogers, Donald B., 5800 Sunrise Rd., Lincoln, Neb. 68510
Roper, Stanley D., Ozark 65721
Schultz, Loraine E., Branson 65616
Shumate, L. St. Clair, Reeds Spring 65737
Spears, Charles A., Branson 65616
Sweany, Henry C., Mt. Vernon 65712

Taylor, Leo T., Neosho 64850
Wade, Earl W., Mt. Vernon 65712
Wilson, Daniel R., 26 Pennsylvania, Leavenworth, Kan. 66048
Wommack, Fred L., Crane 65633
Yates, J. Lewis, Mt. Vernon 65712

PEMISCOT COUNTY MEDICAL SOCIETY

Acuff, William J., Caruthersville 63830
Aquino, Philip J., Caruthersville 63830
Bernard, J. W., Caruthersville 63830
Bryant, William O., Hayti 63851
Cain, Charles F., Caruthersville 63830
Caldwell, Jacob D., Hayti 63851
Chapman, Jerry R., Steele 63877
Cook, Oliver W., Caruthersville 63830
Cooper, Lawrence E., 1274 Hanton, Fort Myers, Fla. 33901
Grable, James, Portageville 63873
Gubin, Alan S., Caruthersville 63830
McCoy, Warren R., Caruthersville 63830
McKaskle, Clarence W., Caruthersville 63830
Painter, Andrew E., Portageville 63873
Painter, Lattie B., Jr., Portageville 63873
Shirey, Arnold G., Hayti 63851

PERRY-STE. GENEVIEVE COUNTIES MEDICAL SOCIETY

Carron, Oscar A., Perryville 63775
DeGenova, Gerard H., Ste. Genevieve 63670
Fairchild, James F., Perryville 63775
Feltz, Lawrence W., Perryville 63775
Fischer, Theodore, Altenburg 63732
Lanning, Richard C., Ste. Genevieve 63670
Legner, Stanley G., Perryville 63775
Lutkewitte, Joseph F., Ste. Genevieve 63670
McDermott, Alfred E., Perryville 63775
Miller, Oliver J., 1972 Bend Rd., Cape Girardeau 63701
Utterman, William F., Perryville 63775

PETTIS COUNTY MEDICAL SOCIETY

(Sedalia 65301)

Beckemeyer, William A., 500 W. 16th St.
Bess, William E., 210 S. Ohio
Boger, James W., 500 W. 16th St.
Brady, Charles H., Gordon Bldg.
Braverman, Elliot M., 1501 S. Grand Ave.
Brazos, John C., Smithton 65350
Campbell, Albert J., Jr., 312 S. Ohio
Daum, Harold F., Bothwell Memorial Hosp.
Edwards, David R., 700 S. Limit
Eldenburg, Donald, 700 S. Limit
Fisher, Stanley D., Sedalia
Glass, Robert L., 3225 Monroe, Carlsbad, Calif. 92008
Gonser, Karl B., 101 S. Ohio
Hopkins, Thomas J., 700 S. Limit
Hopkins, T. Spencer, 1609 S. Limit
Lamy, John E., 509 W. Broadway
Lowe, Alvin L., 621 W. 16th St.
Maddox, Albert R., 116 W. Main
Osborne, Charles D., 710 W. Broadway
Owings, Raymond H., Bothwell Memorial Hosp.
Proctor, Donald C., 700 S. Limit
Rhodes, Euhlan L., Warsaw 65355
Roberts, Paul A., Sweet Springs 65351
Rodeman, John M., Gordon Bldg.
Siegel, Carl D., 601 E. 12th St., Room 444, Kansas City 64106
Siegel, Peter V., 3706 Corey Place, Washington, D. C. 20016
Stauffacher, C. Gordon, 700 S. Limit
Stewart, Robert H., Bothwell Memorial Hosp.
Van Dyke, Elmer H., 415 S. Lamine
Walter, Archie L., 500 W. 16th St.
Worley, Charles A., Sweet Springs 65351

PHELPS COUNTY

(Mid-Missouri County Medical Society)

PIKE COUNTY MEDICAL SOCIETY

Andrae, Robert L., Louisiana 63353
Christensen, Roger F., Louisiana 63353
Day, John K., Bowling Green 63334
Jackson, Edward K., Clarksville 63336
Lewellen, Charles H., Louisiana 63353
Martin, W. Joe, Louisiana 63353
Middleton, John W., Louisiana 63353
Smith, Ted P., Bowling Green 63334
Stuerman, Lawrence G., Louisiana 63353
Wilcoxen, William B., Bowling Green 63334

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Thurman, Hill C., Parkville 64152
Vescovo, Paul C., 4106 Vivion Rd., Kansas City 64117
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(Marion-Ralls-Shelby County Medical Society)

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Bergner, Grace E., 114 N. Taylor 63108
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Bryan, William T. K., 950 Francis Pl. 63105
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Collodi, George A., 20 Southcote Dr. 63117
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Comens, Ruth C., 8826 Woodfox Dr. 63127
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Danis, Richard K., 634 N. Grand 63103
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Hall, Preston C., 3902 Lafayette 63110
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Hogan, Patrick C., 2623 Telegraph Rd. 63125
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Pernoud, Flavius G., Jr., 841 Audubon Dr. 63105
Pernoud, Michael F., 51 Frontenac Dr. 63131
Peterson, Malcolm L., 54 Middlesex Dr. 63117
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Post, Lawrence T., Jr., 100 N. Euclid 63108
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Powers, Pierce W., 5203 Chippewa 63109
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Presnell, Cleitus A., 6744 Clayton Rd. 63117
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Probstein, Jacob, 4943 Lindell Blvd. 63108
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Davidson, Morris, 35 N. Central 63105
Davis, Edgar W., 3720 Washington 63108
Davis, Irl R., 1506 Hodiamont 63112
Dean, Lee W., Jr., 9067 Clayton Rd. 63117
DeHovitz, Bernard, 950 Francis Pl. 63105
Deitchman, Robert B., 4511 Forest Park Blvd. 63108
Deutch, Max, 29 Willow Hill Rd. 63124
Deyton, John W., 1617 S. Brentwood Blvd. 63105
Dickler, Donald J., 833 Audubon Dr. 63105
Diehr, Maurice A., 9385 Page Blvd. 63114
Dill, Foster A., 7346 Manchester 63117
Doisy, Robert A., 103 Edwin 63122
Donley, Leo F., Jr., 2739 N. Grand 63106
Dowd, James F., Jr., 30 W. Brentmoor Pk. 63105
Drescher, Emmett B., 35 N. Central 63105
Duggan, John J., Jr., 333 S. Kirkwood Rd. 63122
Dulick, Michael, 9012 Manchester 63117
Dumonceaux, Leonard J., 7301 St. Charles Rock Rd. 63133
Durr, Jon W., 417 Phyllis, Columbia 65201
Ebel, Eugene H., 9903 Lewis & Clark Blvd. 63136
Eber, Carl T., 610 Locust St. 63101
Ecker, Decider B., Pacific 63069
Efron, Joseph, 30 Ladue Estates 63141
Eggleston, Thomas F., 11745 Olive St. Rd. 63141
Eidelman, Jack R., 4511 Forest Park Blvd. 63108
Eisenstein, Albert B., 818 S. Meramec Ave. 63105
Eller, C. Howe, 801 S. Brentwood Blvd. 63105
Ellis, Calvin C., 11627 Fallbrook Dr. 63131
Ellison, Leroy E., 7346 Myrtle 63117
Elson, Julius, #5 Granada, La Hacienda 63124
Emerson, Reynolds L., 1695 Brentwood Blvd. 63144
Ernst, Joseph G., 1056 Dunmorr 63131
Estes, Jack M., 8307 Jennings Rd. 63136
Eversoll, Norton J., 1455 Tyler, Hollywood, Fla. 33020
Fairshter, Alex E., #9 Blackpool La. 63132
Falk, O. P. J., #3 Southmoor Dr. 63105
Feldaker, Robert M., 817 N. McKnight Rd. 63132
Feldman, David, 8631 Delmar 63124
Ferrara, John P., Northland Medical Bldg. 63136
Fingerhood, Marvin G., 1434 Chambers Rd. 63135
Fingerman, Louis H., 660 S. Euclid 63110
Fingert, Hyman H., 4542 Maryland 63108
Finkel, Barney W., 6508 W. Florissant 63136
Finley, Freeman L., 2475 Hartland 63114
Fleming, Paul D., R.R. #2, Box 29, Waterloo, Ill. 50701
Fletes, James W., 7270 Natural Bridge Rd. 63121
Flynn, Thomas T., 1617 S. Brentwood Blvd. 63144
Forsman, Waldo W., Jr., 4128 S. Lindbergh Blvd. 63126
Forsyth, B. Todd, 100 N. Euclid 63108
Fox, Leon J., 4511 Forest Park Blvd. 63108
Franklin, Harold A., 606 S. Meramec 63105
Freiheit, Harold J., #3 Devondale La. 63131
Friedman, Ira J., 2428 Woodson Rd. 63114
Friedman, Robert H., 150 N. Meramec 63105
Froelich, Edwin J., 747 Dilworth Rd., Rt. #2, Lebanon 65536
Fuchs, George J., Route 2, Barnett 65011
Gaines, Quentin M., 136 W. Mermod 63122
Gale, Arthur H., 2428 Woodson Rd. 63114
Gale, Philip R., 9216 Clayton Rd. 63124
Gall, Ira, 141 N. Meramec 63105
Gaunt, Frank P., 203 W. Cedar 63119
Gay, Elizabeth K., 5166 Chiltenham Rd. Florissant 63033
Gearhart, Wilbur H., 950 Francis Pl. 63105
Gibstine, Marvin H., 10517 St. Charles Rock Rd. 63114
Gieselman, Ralph V., 4910 Forest Park Blvd. 63108
Gitt, Joseph J., 1025 S. Warson Rd. 63124
Goldman, Hyman J., 4511 Forest Park Blvd. 63108
Gollub, Samuel W., 8112 Delmar 63130
Goodman, J. N., Rt. 1, Hardy, Ark. 72542
Goodman, Nathaniel, 8307 Jennings Rd. 63136
Goodrich, Harold A., 19 E. Lockwood 63119
Grabau, Gene H., 8036 N. Broadway 63115
Graeser, Richard G., 4944 Lindell Blvd. 63108
Gray, Walter C., 8715 St. Charles Rock Rd. 63114
Green, Manuel E., 1625 Tower Grove 63110
Greenman, Marshall B., 950 Francis Pl. 63105
Gronau, Axel R., 7062 Waterman 63130
Grundmann, William H., 634 N. Grand 63103
Hagemann, Paul O., 5505 Delmar 63112
Hall, Eugene W., 116 S. Florissant Rd. 63135
Halpern, Lawrence K., 950 Francis Pl. 63105
Hamilton, Caldwell K., 11745 Olive St. Rd. 63141
Hampton, Oscar P., Jr., 8153 Stanford Ct. 63130
Hardy, Guerdan, 35 N. Central 63105
Hardy, Patrick J., 1125 Graham Rd., Florissant 63031
Harris, Charles W., 5298 Page Blvd. 63113
Harwell, J. Larry, 6914 Kingsbury Blvd. 63130
Hasenmueller, James J., 8460 Watson Rd. 63119
Hauptmann, William L., 10695 Bellefontaine Rd. 63137
Hawkins, Lee W., #1 Clarkson Rd., Chesterfield 63017
Heideman, Milo L., 7708 Weston Pl. 63117
Helbing, Edward J., 2009 Yucca St., S.S. Star Rt., Box 104, Alameda, New Mexico 87114
Hendin, Aaron, 9636 Old Bonhomme Rd. 63132
Hengen, Henry E., 11223 St. Charles Rock Rd. 63114

Hershey, Falls B., 18 S. Kingshighway 63108
Herzog, Godofredo M., 216 S. Kingshighway 63110
Hickey, Glenn M., 12 Ste. Genevieve Ct. Florissant 63031
Hoard, Joseph W., 129 E. Kirkham Rd. 63119
Hobbs, John E., 4911 Barnes Hosp. Plaza 63110
Hogancamp, Charles E., 135 W. Adams 63122
Hogancamp, Glenn E., 736 Smith Dr., Ballwin 63011
Holscher, Edward C., 35 N. Central 63105
Holtz, Sumner, #4 Lenox Pl. 63108
Howe, Albert L., 601 S. Brentwood Blvd. 63105
Howe, Louis F., 8806 Harrison 63117
Huck, Frank F., 408 Gravois Rd., Fenton 63026
Hudgens, Richard W., 708 Radcliffe 63130
Hughes, Robert G., 11745 Olive St. Rd. 63141
Irick, Carl C., 128 E. Pier NLYH, Naples, Fla. 33940
Izmirlian, Grant, 7961 Big Bend 63119
Jacobs, Frederick A., 111 Church Rd. 63135
Jick, Sidney, 457 N. Kingshighway 63108
Johnson, Roy, 40 N. Florissant Rd. 63135
Jones, Dorothy J., #6 Glen Creek La. 63124
Jones, James B., 9335 Sonora Ave. 63144
Jones, Victor, 2240 St. Clair Ave. 63117
Jotte, Richard F., 10300 St. Charles Rock Rd. 63114
Kahn, Lawrence, 35 N. Central 63105
Kamuran, Ozgoncu, Northland Medical Bldg. 63136
Kardesch, Milton, 8 Spoede Woods 63141
Karsh, Robert S., 533 Purdue 63130
Kendis, Joseph B., 4511 Forest Park Blvd. 63108
Kessler, Joseph J., #9 Ladue Estates 63141
Kessler, Sheldon, 1125 Graham Rd., Florissant 63031
Kilker, Clarence H., 7520 Natural Bridge Rd. 63121
Kilker, Donald E., 7520 Natural Bridge Rd. 63121
Kimelman, Nathan, 21 Granada Way 63124
King, Eustace E., III, 2114 E. Grand 63107
Kingsland, Robert C., 14 Forsyth Walk 63105
Kipnis, David M., 7200 Wydown Blvd. 63105
Klippel, Allen P., 110 S. Central 63105
Knock, Henry L., 135 W. Adams 63122
Koch, Robert E., 35 N. Central 63105
Koerner, Kenneth A., 12940 Topping Estates Dr. 63131
Koessel, Arthur W., 634 N. Grand 63103
Konzelmann, John A., 6677 Delmar 63130
Kopp, Jules H., 4511 Forest Park Blvd. 63108
Korn, Robert L., 141 N. Meramec 63105
Krieger, John L., 28 Berry Road Pk. 63119
Kurth, Robert K., 6500 Chippewa St. 63109
Kuttner, Marianne, 8515 Delmar 63124
Lansche, W. Edward, 5505 Delmar 63112
Larkin, Rosemary R., 2244 Union Rd. 63125
Lauber, Joseph J., 39 Villa Coublay 63131
Leonhardt, Erwin M., 9015 Rock Forest Dr. 63123
Leslie, Charles H., 209 S. Kirkwood Rd. 63122
Levey, Simon A., 407 Kalen Dr. 63114
Levin, Marvin E., 2829 Stonington Pl. 63131
Lewin, Wilbur H., 906 Olive 63101
Lipschitz, Ervin, 225 S. Meramec 63105
Lissner, Arthur B., 6944 Chippewa 63109
Lohr, Robert W., 236 Conway Hill Rd. 63141
Lord, Richard E., 135 W. Adams St. 63122
Loving, B. Rush, Box A, Ballwin 63011
Luedde, Fullerton W., 35 N. Central 63105
Luehrs, Robert O., 230 S. Bemiston 63105
Lund, Herluf G., 3654 S. Grand 63118
Lund, Robert H., 35 N. Central 63105
Luther, George A., 135 W. Adams 63122
Lyss, Carl, 100 N. Euclid 63108
McCall, Edwin L., 9012 Manchester 63117
McCarthy, Thomas D., 607 East Dr. 63135
McClure, David N., 950 Francis Pl. 63105
McGinnis, William F., 5505 Delmar 63112
McKee, Oliver A., N. Kirkwood Rd. & Washington 63122
McLean, Royal C., 520 W. Jewel 63122
McMurray, Herbert C., Manchester 63062
McNalley, Frank P., 950 Francis Pl. 63105
MeNalley, Michael, 135 W. Adams 63122
Magee, Charles D., 48 Berkshire 63117
Magee, William E., 4910 Forest Park Blvd. 63108
Magidson, Joseph, 615 Forest Ct. 63105
Magness, Guy N., 608 Kingsland 63130
Mahe, George A., 8039 Park Dr. 63117
Mangelsdorf, Thomas K., 4919 Buckingham Ct. 63108
Maravilla, Levy M., 4211 Bayless 63125
Marcus, Morris D., 8631 Delmar 63124
Margolis, Richard M., 50 Ladue Estates, East 63141
Marmor, William A., 607 N. Grand 63103
Martin, Frederick W., 12 Eversdale Ct. 63124
Martz, John C., 6 Denney Lane 63131
Mattis, Robert D., 21 Brentmoor Pk. 63105
Maxwell, Richard W., 5257 Lindell Blvd. 63108
May, Benjamin F., 736 Audubon Dr. 63105
Mayer, Robert A., 950 Francis Pl. 63105
Meador, James R., 150 N. Meramec 63105
Meagher, Arthur J., 3654 S. Grand 63118
Mendelson, David F., 141 N. Meramee 63105
Merrims, Theodore, 1241 Warson Pines 63132
Merritt, Burch A., 7309 Natural Bridge Rd. 63121
Merz, Jean J., 9871 Northbridge Rd. 63124
Meyer, James E., Manchester 63062
Meyer, Jay, 911 S. Brentwood Blvd. 63105
Mezera, Raymond A., 7135 Forsyth Blvd. 63105
Milder, Benjamin, 100 N. Euclid 63108
Miles, Paul W., 100 N. Euclid 63108
Miller, Charles J., 206 N. Fillmore 63122
Miller, Geoffrey W., 4511 Forest Park Blvd. 63108
Minnihan, Robert W., 6327 Lynbrook Dr. 63123
Missey, Wilburn C., Jr., 12047 Conway Rd. 63131
Molden, Charles A., 7520 Natural Bridge Rd. 63121
Monat, Seymour, 4511 Forest Park Blvd. 63108
Montes, Arturo C., 8700 Riverview Dr., Baden 63147
Montes-de-Oca, Julio, 22 Clayton Terr. 63131
Moon, Thomas R., Jr., 100 N. Euclid 63108
Moore, Harry G., 917 S. 18th St. 63103
Moore, Harry G., Jr., 141 N. Meramec 63105
Moore, John L., 23 Orchard La. 63122
Moore, Walter L., 6376 Clayton Rd. 63117
Moore, William E., 7315 Pasedena Blvd. 63121
Mowrer, Marie O., 1420 Grattan 63104
Mueller, Robert J., 16 Hampton Village Plaza 63109
Mullarky, Wilbur A., 14176 Parliament Dr., Chesterfield 63017
Murphy, John C., 3720 Washington 63108
Nakada, James R., 950 Francis Pl. 63105
Nash, W. Hampton, 819 Locust 63101
Nelson, J. Roger, 135 W. Adams 63122
Newport, Gerald, 64 Ladue Estates 63141
Noller, Henry W., 9440 Midland 63114
Nouhan, Joseph G., 100 Ladue Meadows La. 63141
Nuetzel, John A., 911 S. Brentwood Blvd. 63105
Nunez, Maria M., 4119 Magnolia Ave. 63110
Nussbaum, Robert A., 3701 Grandel Sq. 63108
O'Bannon, L. W., Jr., 11895 North Ranch 63033
O'Connor, Robert J., 751 St. Francois St., Florissant 63031
Oglesby, Richard B., 950 Francis Pl. 63105
O'Keefe, Joseph D., 135 W. Adams 63122
Olin, Robert H., 35 N. Central 63105
O'Neal, Patricia, 4989 Barnes Hosp. Plaza 63110
Osborn, Donald O., Sutter Clinic, 819 Locust 63101
Ott, Harold J., 2816 Sutton 63143
Ottensmeyer, Charles D., 911 S. Brentwood 63105
Paris, William H., 7520 Natural Bridge Rd. 63121
Park, George M., Route #3, Box 25AA, Chesterfield 63017
Parker, Brent M., 4960 Audubon 63110
Patient, William F., 4644 Redfield Ct. 63121
Pawol, S. E., 9408 W. Milton 63114
Peebles, J. B., Jr., 135 W. Adams 63122
Pennoyer, James, 117 Plant Ave., Webster Groves 63119
Perry, H. Mitchell, 1983 Karlin Dr., 63131
Perry, William D., 100 N. Euclid 63108
Peterson, Frederick D., 8225 Clayton Rd. 63117
Phillips, Hanford, 6825 Clayton Ave. 63110
Pipes, Keith E., 9001 West Pine 63117
Platt, William R., 57 Ridgemoor Dr. 63105
Podos, Steven M., 660 S. Euclid 63110
Powell, Charles B., 1125 Graham Rd., Florissant 63031
Probst, Raymond E., 3923 Watson Rd. 63109
Quevy, Richard G., 753 Ambois Dr. 63141
Rachlin, Maxwell, 1617 S. Brentwood Blvd. 63117
Ragland, John E., Ballwin 63011
Rao, Carlo, 18 Ladue Estates 63141
Redington, James C., Jr., #1 Tuscany Pk. 63105
Reese, A. Victor, 120 E. Lockwood 63119
Reiches, Aaron J., 150 N. Meramec 63105
Reilly, Pierce J., 730 Hodiamont 63112
Reinhard, Edward H., 235 Sylvester 63119
Reister, Dorothy D., 5201 W. 84th, Shawnee Mission, Kan. 66207
Reitman, Stanley, #8 Heartwoods Ct. 63132
Rennard, Marvin, 4511 Forest Park Blvd. 63108
Repp, Theodore J., 9311 Duenke Dr. 63137
Reynolds, Fred, 4960 Audubon 63110
Richtarsic, Stephen R., 1825 Ashby Rd. 63114
Riggio, Salvatore N., 9901 Gravois Rd. 63123
Roberts, Harold K., 110 S. Central 63105
Roberts, John P., 3015 Barrett Station Rd. 63122
Roberts, John R., 8649 Rosalie 63144
Robertson, Frank G., 141 N. Meramee 63105
Robinson, Edith C., #2 Briar Oak 63132
Roblee, Melvin A., 35 N. Central 63105
Rogers, C. H., 812 Olive 63101
Rogers, John A., 7550 Delmar 63130
Rohlfing, Edwin H., 8230 Forsyth Blvd. 63124
Rolufs, Lloyd S., 135 W. Adams 63122
Roodman, Herman J., 2428 Woodson Rd. 63114
Roos, Albert, 1040 Sylvan Pl. 63122
Rosecan, Marvin, 4910 Forest Park Blvd. 63108
Rosenbaum, Herbert E., 100 N. Euclid 63108
Rosenbaum, Louis J., 7123 Tulane 63130
Rosenstein, Daniel L., 216 S. Kingshighway 63110
Roufa, Joseph F., 4910 Forest Park Blvd. 63108
Rouse, Ernest T., 100 N. Euclid 63108
Rubenstein, Melvin, 4919 Buekingham Ct. 63108
Rubin, Robert, 10 Adams Ave. 63135
Ruhling, Rudy, 5203 Chippewa 63109
Ryan, John J., 28 Ridgetop 63117
Salisbury, William J., 445 Bellerive Blvd. 63111
Schaef, Mary L., 7450 Stanford 63130
Schaerer, Jacques P., 911 S. Brentwood Blvd. 63105
Schattyn, Martyn, 539 N. Grand 63103
Schechter, Samuel E., 8000 Bonhomme Rd. 63105
Scheele, Paul M., 135 W. Adams 63122
Schlansky, Seymour M., 7247 Delmar 63130
Schluer, Elmer P., 3720 Washington 63108
Schmidt, Edmund M., 6704 W. Florissant 63136
Schneider, Sam, 4652 Maryland 63108
Schoentag, John S., 4119 Appleberry Lane 63121
Schopp, Alvin C., 634 N. Grand 63103
Schultz, E. Robert, 9840 Copper Hill Rd. 63124
Schultz, Samuel, 2730 Watson Rd. 63109
Schwartz, Melvin M., 4511 Forest Park Blvd. 63108
Schwartzman, Bernard, 4511 Forest Park 63108
Seabaugh, Ottis D., 105 W. Lockwood 63119
Seabold, John A., 408 Mission Ct. 63130
Shatz, Burton A., 4652 Maryland 63108
Sheffield, William, Jewish Hosp., 216 S. Kingshighway 63110
Shobe, Frank O., 4500 West Pine Blvd. 63108
Silver, Bernd, 530 Warren 63130
Silverberg, Charles, 45 Rio Vista Dr. 63124

Simril, Wayne A., 35 N. Central 63105
Sisk, James C., 141 N. Meramec Ave. 63105
Skilling, David M., Jr., 5505 Delmar 63112
Skinner, John S., 31 Willow Hill Rd. 63124
Smit, Herbert M., 539 N. Grand 63103
Smith, George E., 12629 Rott Rd. 63126
Sommer, Ross B., 100 N. Euclid 63108
Soto, Alberto A., 9621 Hale Dr. 63123
Spector, Gene W., 216 S. Kingshighway 63110
Speno, Angelo A., 11815 Point Oak Dr. 63131
Spitz, Milton A., 8453 N. Indian Creek Parkway, Milwaukee, Wisc. 53217
Spoeneman, Marlin C., 7205 W. Florissant 63136
Staehle, Melvin E., 7124 Natural Bridge Rd. 63120
Stein, Harry J., 6917 W. Florissant 63120
Stein, Leonard P., 2618 Oregon 63118
Steiner, Alexander J., 3720 Washington 63108
Stephens, William A., 3720 Washington 63108
Sterling, John A., 1230 Kenmore Dr. 63122
Stevens, Robert W., 9311 Duenke Dr. 63137
Stewart, Frances H., 7161 Delmar 63130
Stickle, A. W., 135 W. Adams 63122
Strauchen, Gilbert W., Knoll Rd., Ocean Reef, Box 258, Rt. 1, Key Largo, Fla. 33038
Stuart, Wallace, 3654 S. Grand 63118
Stuehner, Roland W., 35 N. Central 63105
Susman, Irvin C., 216 S. Kingshighway 63110
Sutter, Richard A., 819 Locust St. 63101
Tashma, Sigmund, 904 Dalkeith 63132
Teiber, Frederick W., 3201 Washington 63103
Thiele, Belmont R., 10261 Thornwood Dr. 63124
Tobias, Norman, 634 N. Grand 63103
Tomlinson, William L., 1851 Candlewick Dr. 63131
Torin, Bernice A., 951 Old Bonhomme Rd. 63132
Townsend, James A., 915 DeMun 63105
Townsend, Vincent F., 7532 Byron Pl. 63105
Treiman, Robert C., #7 Radnor Rd. 63131
Tremain, E. E., 2901 Big Bend 63117
Trueblood, Alva C., Jr., 325 N. Kirkwood Rd., 63122
Trunko, Leo, 1900 Telegraph Rd. 63125
Tsifutis, Argyrios, 8631 Rosalie Ave. 63144
Tureen, Louis L., 1221 S. Grand 63104
Turner, James K., 35 N. Central 63105
Ulett, Pearl C., 54 Picardy La. 63124
Valach, Frank J., 1617 S. Brentwood Blvd. 63117
Vatterott, Paul B., 10300 St. Charles Rock Rd. 63114
Viers, Wayne A., 135 W. Adams 63122
Vinyard, Paul, 3718 Olive 63108
Viraghaty, Julius Gy., Rt. #1, Box 483, Manchester 63062
Vitale, Anthony J., 7130 Natural Bridge Rd. 63134
Vitale, Nicholas S., 7130 Natural Bridge Rd. 63134
Vollmar, Clarence J., 8787 Big Bend 63119
Votaw, Robert E., 10 Warson Terr. 63124
Walker, Harvey, Jr., 6924 Waterman 63130
Walker, Willard B., 35 N. Central 63105
Walter, William L., 135 W. Adams 63122
Walther, Roy A., Jr., #7 High Acres 63132
Wamsley, James R., 13046 Ferntrails La. 63141
Waters, E. B., 126 E. Jefferson 63122
Weber, Sol, 607 N. Grand 63103
Weber, William K., 4323 Gladwyn Dr., Bridgeton 63044
Weinhaus, Robert S., 7165 Delmar 63130
Weisbrod, Wilfred B., 1805 Gravois 63104
Weisman, Renate D., 2050 Woodson Rd. 63114
Weisman, Sol, 4652 Maryland 63108
Weitman, Maximilian, 3530 Arsenal 63118
Wenneker, Alvin S., 8112 Delmar 63130
West, Joseph W., 135 W. Adams 63122
Westrup, Ellsworth A., 8540 Big Bend 63119
Whitener, Miles C., 3109 Brown Rd. 63114
Whitener, Paul R., 3109 Brown Rd. 63114
Wiedershine, Leonard J., 4511 Forest Park Blvd. 63108
Windsor, Charles E., 4511 Forest Park 63108
Wissmath, Frank S., 35 N. Central Ave. 63105
Wittler, Harry A., 1919 Karlin Dr. 63131
Wolff, Harold D., 4511 Forest Park Blvd. 63108
Womack, Granville J., 22 LaGorce Dr., Chesterfield 63017
Wood, James A., 141 N. Meramec 63105
Wulff, George J. L., Jr., 5505 Delmar 63112
Wyatt, Lois C., 134 W. Adams 63122
Yanow, Mitchell, 141 N. Meramec 63105
Yap, Mardonio J. R., Jennings & W. Florissant, Jennings 63136
Zimmerman, Herbert B., 17 Spoede Woods 63141
Zwirn, Benjamin H., Northland Medical Bldg. 63136

SALINE COUNTY MEDICAL SOCIETY
(Marshall 65340)

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Aiken, Richard F. Marshall
Blalock, Robert W., Marshall
Day, Anthony B., Marshall
Haynes, Robert C., Marshall
Knipschild, B. F., Marshall
Lawrence, John R., Marshall
McBurney, C. A., Slater 65349
McCorkle, E. Lee, Marshall
McCoy, Donald L., Marshall
Madison, Waite H., 3901½ Bellefontaine, Kansas City 64130
Mead, Samuel T., Slater 65349
Raynor, Richard, Marshall
Reid, James A., Marshall
Roehrs, Marvin E., Marshall
Watson, Cecil L., Marshall

SCHUYLER COUNTY
(North Central Counties Medical Society)

SCOTLAND COUNTY
(Lewis-Clark-Scotland County Medical Society)

SCOTT COUNTY
(SEMO County Medical Society)

SEMO COUNTY MEDICAL SOCIETY
(Stoddard-New Madrid-Mississippi-Scott Counties)
(Sikeston 63801)

Blanton, J. C., Sikeston
Bruce, Leo A., Sikeston
Buckthorpe, Thelma C., Sikeston
Colbert, Robert S., Sikeston
Comeau, Richard, Dexter 63841
Critchlow, William C., Sikeston
Davis, Wilbur L., Charleston 63834
Dunaway, Howard A., Sikeston
Ellis, Burnett E., Gideon 63848
Ferguson, Wilson J., Sikeston
Finney, William O., Chaffee 63740
Frazier, Robert L., Charleston 63834
Heeb, Max A., Sikeston
Husted, George W., Parma 63870
McClure, Thomas C., 5310 N.E. 32nd Ave., Fort Lauderdale, Fla. 33308
Marshall, Alfred H., Charleston 63834
Martin, Andrew D., Sikeston
Page, Jesse W., Sikeston
Parks, Stephen, Sikeston
Popp, Carl G., Sikeston
Reeder, Charles C., New Madrid 63869
Rehm, Ralph, Bloomfield 63825
Rolwing, E. Charles, Charleston 63834
Sargent, Alden P., Sikeston
Sargent, John P., Sikeston
Sarno, Samuel M., Morehouse 63868
Shell, William C., Sikeston
Smith, Audra B., Sikeston
Throgmorton, Howard B., Sikeston
Tull, Frank, Sikeston
Urban, Edgar D., Sikeston
Waddle, Theodore L., Dexter 63840
Waltrip, Roy T., Jr., Sikeston
Whitaker, T. H., East Prairie 63845

SHANNON COUNTY
(Carter-Shannon County Medical Society)

SHELBY COUNTY
(Marion-Ralls-Shelby County Medical Society)

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(Howell-Oregon-Texas-Wright-Douglas-Ozark Counties)

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Coffee, Amos L., Willow Springs 65587
Cooper, Claude W., Thayer 65574
Denney, Richard W., Mountain Grove 65711
Dreyer, William F., Houston 65483
Fowler, Marvin L., West Plains 65775
Frame, Homer G., Cabool 65445
Gentry, Marvin C., Ava 65608
Hasek, James A., Mountain Grove 65711
Miller, Harold W., Willow Springs 65587
Morgan, W. Thomas, Jr., West Plains 65775
Smith, C. Franklin, Willow Springs 65587
Smith, Rollin H., West Plains 65775
Spears, Joe L., Cabool, 65445
Tiffany, Delbert E., Mountain View 65548
Walker, Ambrose T., Mammoth Spring, Ark. 72554
Wall, Joe A., Houston 65483
Walton, Marion C., Mountain View 65548
Wiles, Jack N., West Plains 65775
Wilson, John E., 509 Laurel Dr., Columbia 65201

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(SEMO County Medical Society)

STONE COUNTY
(Ozarks Medical Society)

SULLIVAN COUNTY
(North Central Counties Medical Society)

TANEY COUNTY
(Ozarks Medical Society)

TEXAS COUNTY
(South Central Counties Medical Society)

VERNON COUNTY
(West Central Missouri Medical Society)

WARREN COUNTY
(Franklin-Gasconade-Warren County Medical Society)

WASHINGTON COUNTY
(Mineral Area County Medical Society)

WAYNE COUNTY
(Butler-Wayne-Ripley County Medical Society)

WEBSTER COUNTY MEDICAL SOCIETY

Bareis, Robert J., Marshfield 65706
Macdonnell, Thomas M., Marshfield 65706

WEST CENTRAL MISSOURI MEDICAL SOCIETY
(Bates-Cass-Cedar-St. Clair-Vernon Counties)

Allen, Claude J., Rich Hill 64779
Allen, William H., Nevada 64772
Barger, O. B., Harrisonville 64701
Barone, Paul L., Nevada 64772
Baska, Richard E., 2116 W. 49th, Shawnee Mission, Kan. 66205
Brownsberger, Robert H., Appleton City 64724
Davis, C. Braxton, Nevada 64772
Doggett, Sylvester, Sikeston 63801
Eklund, Alfred W., Pleasant Hill 64080
Ellett, William H., Appleton City 64724
Giesler, Donald H., Osceola 64776
Hansen, Arthur D., Butler 64730
Haynie, William W., Butler 64730
Jones, Edward S., Harrisonville 64701
King, Elbert R., Route 2, Boise, Idaho 83702
Lahue, Lilburn D., Butler 64730
Lane, Jerald P., Harrisonville 64701
Long, Curtis W., Butler 64730
Long, David S., Harrisonville 64701
Love, Walter S., Nevada 64772
Lusk, Charles A., Jr., Butler 64730
Luter, Carter W., Butler 64730
McCann, Louis P., Nevada 64772
Magee, Robert L., El Dorado Springs 64744
Martin, Forrest L., Nevada 64772
Masor, Nathan A., Butler 64730
Moody, Jackson C., Harrisonville 64701
Morrison, George B., Nevada 64772
Mullinax, Orr, Nevada 64772
Pascoe, James J., Nevada 64772
Pearse, Roy W., Jr., Nevada 64772
Pickens, E. Allen, Nevada 64772
Richter, William B., Stockton 64785
Rinck, Edward C., Nevada 64772
Ronald, Douglas C., Butler 64730
Seevers, Ruth, Osceola 64776
Strohach, Robert L., Butler 64730
Thies, Jerome H., Osceola 64776
Tracy, Herbert A., Belton 64012
Wheeler, Robert L., Harrisonville 64701
Williams, Thomas A., Address Unknown
Wray, Rolla B., Nevada 64772

WORTH COUNTY
(Northwest Missouri Medical Society)

Woman's Auxiliary to MSMA

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4 Nassau Circle, Creve Coeur 63141
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Concordia 64020
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Organization and Membership
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102 E. Rea St., Marshall 65340

Press and Publicity
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2801 W. 63rd St., Shawnee Mission, Kansas 66208

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4212 Flora Pl., St. Louis 63110

Rural Health
MRS. EUGENE HANSBROUGH
1111 Fairmount St., Poplar Bluff 63901

Safety and Disaster Preparedness
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2336 E. Glenwood, Springfield 65804

FALL CONFERENCE—October 25-26, 1967—Tiger Hotel, Columbia, Missouri

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2845 Southern Hills Blvd., Springfield 65804
MRS. JOSIAH H. WALTON
6216 Lindenwood Court, St. Louis 63109
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8006 Gannon Ave., St. Louis 63130
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MRS. DOYLE C. WHITMAN
6836 Cherokee Lane, Shawnee Mission, Kansas 66208

WA/SAMA Liaison Representative
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3291 Carlow Pl., St. Louis 63074

Representative to MSMA Committee on Nursing and Paramedical Personnel
MRS. ROGER BUMGARNER
Route 1, Columbia 65201

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329 Main St., Boonville 65233

DOYLE C. MCCRAW, M.D.
Bolivar 65613

JOSEPH L. FISHER, M.D.
7th and Jule Sts., St. Joseph 64501

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R.F.D. 2, Mexico 65265

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MRS. B. H. MOEN
2214 Carper Dr., St. Joseph 64506

Boone
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1906 Vassar, Columbia 65201

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808 No. Main, Poplar Bluff 63901

Callaway
MRS. HENRY DURST
1 Ivy Lane, Fulton 65251

Cape Girardeau
MRS. EDWIN K. BURFORD
2424 Terry Hill, Cape Girardeau 63701

Clay
MRS. THEODORE F. EDWARDS
512 N.W. 43rd Terrace, Kansas City 64116

Cole
MRS. ROBERT BREGANT
1017 Laurel Dr., Jefferson City 65101

Cooper
MRS. E. T. HUMPHREYS
1123 Third St., Boonville 65233

Dunklin
MRS. WILLIAM MOREHEAD
Malden 63863

Franklin-Gasconade-Warren
MRS. RAYMOND J. BOZZO
Catawba Pl., Washington 63090

Grand River
MRS. W. L. FAIR
1705 Calhoun, Chillicothe 64601

Greene
MRS. JAMES S. KEY
2278 Englewood, Springfield

Jackson
MRS. J. H. HILL
8115 Meadow Lane, Leawood, Kansas 66206

Jasper
MRS. C. B. SCHOEBERL
3111 E. 4th St., Joplin 64801

Jefferson
MRS. HAROLD DONNELL
DeSoto 63020

Johnson
MRS. KEITH D. JONES
910 E. Clark, Warrensburg 64093

Lafayette-Ray
MRS. HERBERT HUBER
205 E. Royle, Richmond 64085

Lincoln-St. Charles
MRS. PAUL ROTHER
7 Elmwood Park, St. Charles 63301

Miller-Morgan-Moniteau
MRS. KENYON LATHAM
200 S. High St., California 65018

Mineral Area
Mrs. Stanton L. Hardy
807 N. Main St., Desloge 63603
Perry-Ste. Genevieve
Mrs. Joseph F. Lutkewitte
33 St. Jude Dr., Ste. Genevieve 63670
Pettis
Mrs. Stanley D. Fisher
2200 So. Kentucky, Sedalia 65301
St. Louis City
Mrs. Thomas Thale
351 Meadow Brook, Ballwin 63011
St. Louis County
Mrs. James R. Nakada
2 Huntleigh Downs, Frontenac 63131
Saline
Mrs. Don L. McCoy
1160 S. Redman, Marshall 65340
South Central
Mrs. W. T. Morgan
1309 W. 2nd, West Plains 65775
West Central
Inactive

AUXILIARIES AND COUNTY MEDICAL SOCIETIES LISTED BY DISTRICTS

FIRST DISTRICT: Andrew,* Buchanan, Clay, Clinton,* Grand River (Caldwell, Carroll, Daviess, DeKalb, Grundy, Harrison, Linn, Livingston, Mercer), Northwest Missouri (Nodaway, Holt, Atchison, Gentry, Worth),* Platte.*

SECOND DISTRICT: Chariton-Macon-Monroe-Randolph,* Clark-Lewis-Scotland,* Marion-Ralls-Shelby,* North Central (Adair, Knox, Putnam, Schuyler, Sullivan).*

THIRD DISTRICT: St. Louis City.

FOURTH DISTRICT: Franklin-Gasconade-Warren, Jefferson, Lincoln-St. Charles, St. Louis County.

FIFTH DISTRICT: Audrain, Boone, Callaway, Camden,** Cole, Cooper Howard,* Miller-Morgan-Moniteau, Montgomery,* Osage.**

SIXTH DISTRICT: Benton,* Henry,* Johnson, Lafayette-Ray, Pettis, Saline, West Central (Bates, Cass, Cedar, St. Clair, Vernon).

SEVENTH DISTRICT: Jackson County.

EIGHTH DISTRICT: Barton-Dade,* Dallas-Hickory-Polk,* Greene, Jasper, Ozarks** (Barry, Christian, Lawrence, McDonald, Newton, Stone, Taney),* Webster.*

NINTH DISTRICT: Carter-Shannon,* Mid-Missouri (Crawford, Dent, Laclede, Maries, Phelps, Pulaski),* South Central (Douglas, Howell, Oregon, Ozark, Texas, Wright).

TENTH DISTRICT: Bollinger,** Butler-Ripley-Wayne, Cape Girardeau, Dunklin, Mineral Area (Iron, Madison, Reynolds, St. Francois, Washington), Pemiscot,* Perry-Ste. Genevieve, SEMO (Mississippi, New Madrid, Scott, Stoddard).*

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* No organized Auxiliary.
** No Medical Society.

PAST STATE PRESIDENTS—1924-1967

Mrs. George H. Hoxie* (Jackson)** 1924-25
Mrs. M. P. Overholzer* (West Central) 1925-26
Mrs. Arthur B. McGlothlan (Buchanan)** . 1926-27
821 N. 24th St., St. Joseph 64506
Mrs. W. M. Bickford* (Saline) 1927-28
Mrs. Willard Bartlett, Sr. (St. Louis City) . 1928-29
53 Westmoreland Place, St. Louis 63108
Mrs. M. P. Ravenal* (Boone) 1929-30
Mrs. A. W. McAlester* (Jackson) 1930-31
Mrs. U. J. Busiek (Greene) 1931-32
1635 E. Walnut St., Springfield, 65802
Mrs. David S. Long (West Central) 1932-33
M. 40, Lake Lotawana, Lee's Summit 64063
Mrs. Hudson Talbot (St. Louis City) 1933-34
405 Winton Lane, Louisville, Ky. 40206
Mrs. W. H. Goodson* (Clay) 1934-35
Mrs. M. Pinson Neal* (Boone) 1935-36
Mrs. Walter C. Kirchner* (St. Louis City) . 1936-37
Mrs. Charles H. Werner* (Buchanan) 1937-38
Mrs. Herbert L. Mantz (Jackson) 1938-39
1209 Romany Rd., Kansas City 64113
Mrs. Paul F. Cole (Greene) 1939-40
1819 Maine St., Quincy, Ill. 62301
Mrs. S. P. Howard* (Cole) 1940-41
Mrs. J. J. Drace (Cape Girardeau) 1941-42
903 Bellevue, Cape Girardeau 63701
Mrs. Frank L. Davis* (St. Louis City) 1942-43
Mrs. Robert C. Haynes (Saline) 1943-44
754 Eastwood, Marshall 65340
Mrs. J. B. McCubbin (Callaway) 1944-45
531 E. 20th St., New York, N. Y. 10010
Mrs. Harry M. Gilkey* (Jackson) 1945-46
Mrs. W. E. Koppenbrink, Sr. (Lafayette-Ray) 1946-47
1303 Main, Higginsville 64037
Mrs. W. L. Allee* (Miller-Morgan-Moniteau) 1947-48
Mrs. August A. Werner* (St. Louis City) ... 1948-49
Mrs. John J. O'Connell (St. Louis County) .. 1949-50
1937 O'Connell Ave., Overland 63114
Mrs. Dwight T. VanDel (Jackson) 1950-51
7531 Terrace, Kansas City 64114
Mrs. W. Carey Cheek (Greene) 1951-52
1535 E. Meadowmere, Springfield 65804
Mrs. Richard A. Sutter (St. Louis County)** 1952-53
7215 Greenway Dr., University City 63130
Mrs. C. Alex McBurney (Saline) 1953-54
927 Hurt St., Slater 65349
Mrs. Wilfred E. Martin (Lafayette-Ray) ... 1954-55
403 S. 2nd St., Odessa 64076
Mrs. Frank B. Leitz (Jackson) 1955-56
308 W. 116th St., Kansas City 64114
Mrs. Charles T. Shepherd (St. Louis County) 1956-57
10 Covington Meadows, St. Louis 63131
Mrs. Armand D. Fries (St. Louis City) 1957-58
11 W. Geyer Lane, St. Louis 63131
Mrs. Henry C. Bauman (Nodaway-Holt-Atchison-Gentry-Worth) 1958-59
929 W. 3rd St., Maryville 64468
Mrs. Stanley S. Peterson (Greene) 1959-60
721 E. Stanford, Springfield 65804
Mrs. Jordan Kelling (Lafayette-Ray) 1960-61
P. O. Box 171, Waverly 64096
Mrs. Frederick E. Wade (Jackson) 1961-62
413 W. 62nd St., Kansas City 64113
Mrs. J. Martyn Schattyn (St. Louis County) 1962-63
9 Huntleigh Downs, Frontenac, St. Louis 63131
Mrs. Lawrence S. Crispell (Jasper County) . 1963-64
911 Kensington, Joplin 64801
Mrs. Delevan Calkins* (St. Louis City) 1964
Mrs. Ralph Woods Bohnsack (Grand River) . 1964-66
635 Skyline Dr., Brookfield 64628
Mrs. Wallace R. Stacey (Jackson) 1966-67
3407 Shady Bend Dr., Independence 64052

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* Deceased.
** National President.

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(Mexico 65265)

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Ekern, Mrs. H. Peter, 1502 Ringo
Epple, Mrs. Lawrence K., 502 E. Monroe
Garcia, Mrs. C. L., 8 Melody Lane
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Jolly, Mrs. Ben N., 1421 S. Jefferson Rd.
Kittelberger, Mrs. George William, 1101 West St.
Lankford, Mrs. Harold D., 1025 S. Olive
O'Brien, Mrs. Harry F., 408 Harvard
Parrish, Mrs. J. C., 206 West State, Vandalia, Mo. 63382
Rodes, Mrs. Ned D., 625 Lakeview
Rouse, Mrs. David M., 1415 Hickory Hill
Wallace, Mrs. Ed S., 811 S. Jefferson
Withers, Mrs. Sanford, 219 E. Anderson

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(Columbia 65201)

Allen, Mrs. Horace E., 2109 Valley Dr.
Allen, Mrs. Joseph E., 2000 N. Allen Dr.
Allen, Mrs. William, 508 W. Briarwood Lane
Almond, Mrs. Carl, 213 W. Blvd. South
Anderson, Mrs. Philip C., 908 Edgewood
Anderson, Mrs. William, 2002 Valley View Dr.
Arnold, Mrs. Richard C., 814 Yale
Asel, Mrs. Norman, 1112 S. Glenwood
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Baker, Mrs. Sherwood A., 2620 Walther Ct.
Basket, Mrs. Edgar, 1316 Bass Ave.
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Bruner, Mrs. Claude, 511 S. Glenwood
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Bumgarner, Mrs. Roger, Route 1
Burns, Mrs. Thomas W., 330 E. Brandon Rd.
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Cochran, Mrs. Donald, 112 Sappington
Cooper, Mrs. Maurice, 1000 Wayne Rd.
Cope, Mrs. James, Route 1, Rocheport 65279
Crouch, Mrs. Richard, 308 Hitt Manor House Apt.
Culley, Mrs. Thomas, 1506 University
Darnell, Mrs. Thomas F. B., 2617 Walther Ct.
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Garrett, Mrs. Glen, 102 E. Brandon Rd.
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Hardwicke, Mrs. Henry, Ashland 65010
Harris, Mrs. Robert J., 2008 Hazelwood Dr.
Ide, Mrs. Carl, 600 Laurel Drive
Jackson, Mrs. Robert L., 1103 W. Stewart Rd.
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Keown, Mrs. Kenneth, 402 Westmount
Kubin, Mrs. Milford T., Route 4
LaChance, Mrs. Leopold, Centralia 65240
Ladenson, Mrs. Roland, 704 Westmount
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Leeper, Mrs. Sidlee W., 606 Stewart Rd.
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Thompson, Mrs. Ian M., 504 Edgewood
Tinsley, Mrs. John C., 104 S. Glenwood
VanLeeuwen, Mrs. Gerald, 511 Westridge Dr.
VanPeenen, Mrs. Hubert J., 700 Westmount Ave.
Waggoner, Mrs. Charles, 712 Hilltop Dr.
Walters, Mrs. John, 1027 Hickory Hill Dr.
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Wheeler, Mrs. Paul, 405 Thilly
White, Mrs. J. Earl, 104 E. Parkway
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Wilson, Mrs. Vernon, Route 4
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Wollschlaeger, Mrs. Paul, 1724 E. Broadway

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Beck, Mrs. Paul M., 3216 Coronado Rd. 64505
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Gunter, Mrs. Joe S., 1609 Ashland 64506
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Howden, Mrs. T. L., 2723 Francis 64501
Ide, Mrs. Lucien W., 1416 N. 25th 64506
Kieber, Mrs. R. W., 1915 N. 33rd 64506
Kline, Mrs. Edmund W., 17 Stonecrest 64506
Knepper, Mrs. Paul, 2002 Ashland 64506
Kulowski, Mrs. Jacob, 2515 Francis 64501
Lee, Mrs. Carleton H., 2716 Douglas 64506
Lehman, Mrs. Philip, 3909 Mitchell Ave. 64501
Luckinbill, Mrs. Paul, Plattsburg 64477
Mabrey, Mrs. John P., Plattsburg 64477
Maginn, Mrs. R. L., 1813 Lovers Lane Hts. 64505
Marston, Mrs. F. James, 2114 Lovers La. 64505
Martin, Mrs. John, 9 Lindenwood La. 64505
McDaniel, Mrs. John R., 1808 N. 29th 64506
McDonald, Mrs. Wilbur P., 6 Country Club Rd. 64505
McGlothlan, Mrs. A. B., 821 N. 24th 64506
Meluney, Mrs. S. E., 1810 N. 30th 64506
Moen, Mrs. Berwyn H., 2214 Carper Dr. 64506
Morse, Mrs. Marvin W., 2702 Faraon 64501
Mothershead, Mrs. John L., 2630 Fairleigh Terr. 64506
Ness, Mrs. Carl K., 8 Lindenwood La. 64505
O'Connor, Mrs. William B., 2316 N. 22nd 64505
Ozenberger, Mrs. Larry, West Grogan St., Plattsburg 64477
Petersen, Mrs. Harold E., 2902 Frederick 64506
Pfeffer, Mrs. Robert, 1915 N. 29th 64506
Pifer, Mrs. Lawrence H., 2120 Manchester Rd. 64505
Potter, Mrs. Caryl, Jr., 2232 Eugene Field Ave. 64505
Potter, Mrs. Thompson E., 2106 Lovers La. 64505
Redmond, Mrs. William, 3102 Jule 64501
Riddell, Mrs. Richard V., 2610 Indian Trail Dr., 64506
Rogers, Mrs. John T., 2502 Ashland 64506
Rosenthal, Mrs. Irwin, 2715 Union 64506
Rost, Mrs. William B., 2221 Northwest Ext. 64506
Roundy, Mrs. Collis I., Rd. 2 64505
Saferstein, Mrs. T. H., 2903 Sherman 64504
Senne, Mrs. Herbert C., 1308 S. Noyes 64507
Shevlin, Mrs. Charles F., 804 N. 25th 64506
Sklenar, Mrs. Donald E., 3910 N. Belt Airway 64506
Smith, Mrs. Clifton, 2821 Ashland 64506
Stallard, Mrs. Donald J., 1417 N. 25th 64506
Stevens, Mrs. Edward, 2913 Joslin Lane 64506
Thomas, Mrs. Forrest, 1301 N. 25th 64506
Thompson, Mrs. F. Gregg, Jr., 631 Hall 64506
Thompson, Mrs. F. Gregg, III, 2714 Ashland 64506
Tovar, Mrs. Manuel, 3209 Douglas 64506

Wadlow, Mrs. Ernest E., 2611 Lovers La. 64506
Waggoner, Mrs. Sharon E., 5820 S. 3rd 64504
Weed, Mrs. Randall W., 1821 Clay 64501
Weinand, Mrs. Ernest, 2002 N. 29th 64506
Whitsell, Mrs. Ora Earl, 2306 Sacramento 64507
Willman, Mrs. Charles, 2105 Lovers La. 64505
Willumsen, Mrs. Henry C., 2209 Eugene Field Ave. 64506

BULTER-RIPLEY-WAYNE COUNTIES
(Poplar Bluff 63901)

Barbour, Mrs. Marvin R., 1721 N. Main
Biggs, Mrs. Fred J., 808 N. Main
Brookreson, Mrs. A. Davis, 700 Hendrix Dr.
Brookreson, Mrs. Alton F., Marble Hill Rd.
Caldwell, Mrs. Fred, 1705 Seifert Dr.
Dinelli, Mrs. Frank E., Route 1
Engelhardt, Mrs. Robert C., 1513 Rosedale La.
Gernstetter, Mrs. S. L., P. O. Box 337
Hansbrough, Mrs. Eugene T., 1111 Fairmount
Hecker, Mrs. J. E., Route 1
Hoja, Mrs. W. Alexander, Route 2, Box 16
Kneibert, Mrs. F. L., Barron Rd.
Ladyman, Mrs. George H., 1504 Rosedale
McLain, Mrs. B. M., Route 2, Hwy. 67 South
McLane, Mrs. Jerry F., 2107 Jackson Rd.
Miller, Mrs. David V., Hwy. 67 S., Route 5
Moore, Mrs. Dan B., 1406 Woodland
Parker, Mrs. Arthur C., Jr., 708 Selma
Post, Mrs. Cyril A., 960 Cynthia
Raper, Mrs. Charles A., Route 2, Box 17B
Robertson, Mrs. William D., 900 North
Ruff, Mrs. T. Eugene, 1411 Rosedale
Tapp, Mrs. Ernest M., 1401 Lurlyn Rd.
Tenpenny, Mrs. J. W., 804 Oak Hill Rd.
Tuma, Mrs. A. T., 1601 Big Bend Rd.
Turner, Mrs. William F., 1308 Nooney
Ward, Mrs. Robert L., Bluff Estates
White, Mrs. Barry B., 935 Lester

CALLAWAY COUNTY
(Fulton 65251)

Brown, Mrs. John J., 1304 N. Vine
Cremer, Mrs. William J., State Hospital Dr.
Durst, Mrs. Henry, 1 Ivy Lane
Groce, Mrs. George, 1 Bartley Lane
Hill, Mrs. James E., Washington
Jackson, Mrs. Vernon, State Hospital Dr.
Kepler, Mrs. Earl C., 207 Lee
Osbourn, Mrs. Richard A., 503 Douglas Blvd.
Peterson, Mrs. Donald, Route 1
Ritterbusch, Mrs. James K., 2 Bartley Lane
Sydow, Mrs. Henry, 1014 Chippewa
Tuttle, Mrs. Jay F., 4 Reed St.
Wood, Mrs. George F., 1700 Plaza Dr.

CAPE GIRARDEAU COUNTY
(Cape Girardeau 63701)

Alyea, Mrs. James, 1869 Drury Lane
Ashley, Mrs. Hugh V., Sr., 444 Marie
Ashley, Mrs. Hugh V., Jr., 1201 Perry
Bahn, Mrs. Charles, 2418 Brookwood
Barnes, Mrs. Seth S., 1854 Broadway
Blankenship, Mrs. Dale, 907 W. Cape Rock Dr.
Burford, Mrs. Edwin K., 2424 Terrie Hill Rd.
Campbell, Mrs. Edward, 1100 N. Henderson
Chapman, Mrs. Jean Allen, 1150 N. Henderson
Crowe, Mrs. John, 1000 N. Henderson
Estes, Mrs. Albert, Hwy. 61
Herbert, Mrs. Charles, Sylvan Lane
Holcomb, Mrs. John K., 825 N. Fountain
Hoxworth, Mrs. Gerald, 1624 Oxford
Jaeger, Mrs. Joseph, Shady Lane
Johnson, Mrs. Earl Wayne, 1044 N. Henderson
Jung, Mrs. Marshall, Illmo 63754
Kasten, Mrs. Melvin C., 1209 Sailor Circle
Keim, Mrs. J. Harry, 643 N. West End Blvd.
Lovinggood, Mrs. Thomas, Sylvan Lane
Magaletta, Mrs. George, 957 Rodney Dr.
McDonald, Mrs. Eugene, 225 W. Main
McGinty, Mrs. Charles, 2435 Brookwood
Nunnelly, Mrs. Gordon, 1432 Themis
Nussbaum, Mrs. Paul, 209 Sunset Blvd.
Nussbaum, Mrs. Paul S., 1721 Crestwood
Oehler, Mrs. William, 1617 Themis
Otto, Mrs. Thomas, 511 Alta Vista
Parsons, Mrs. Leroy, 2021 Sherwood
Rapp, Mrs. Harold, 1011 N. Henderson
Rawlins, Mrs. Fred, 1607 Bertling
Reynolds, Mrs. Garland, P. O. Box 817
Ridings, Mrs. Harold, 96 E. Cape Rock Dr.
Ritter, Mrs. Raymond, 1257 Rockwood
Seabaugh, Mrs. D. I. L., 922 W. Main
Seabaugh, Mrs. L. R., 811 E. Rodney
Seabaugh, Mrs. William, Route 2, Box 563
Shoss, Mrs. Milton, Route 2
Sparkman, Mrs. Thomas, 1629 Oxford Dr.
Stewart, Mrs. Wendell K., 1935 Briarwood
Talbert, Mrs. Clifford R., 1947 Robin Hood Circle
Terry, Mrs. James W., 1413 Margaret
Tygett, Mrs. Glenn, 834 Alta Vista
Tygett, Mrs. Joseph, 1877 Oak Hill Dr.
Williams, Mrs. W. A., Jr., 1236 Normal
Wilson, Mrs. Charles, Oak Lei Dr.
Wolff, Mrs. Paul, 90 E. Cape Rock Dr.

CLAY COUNTY
(Kansas City)

Adams, Mrs. Howard, 819 Nashua Rd., Route 1, Box 35B 64068
Allen, Mrs. Louis, 5317 West 79th, Shawnee Mission, Kan. 66208
Allen, Mrs. L. Lloyd, 3809 West 62nd Terr. 64151
Armstrong, Mrs. Jay H., 4812 Black Swan Dr., Shawnee Mission, Kan. 66216
Arst, Mrs. Herbert E., 1201 East 81st St. North 64118
Balhuizen, Mrs. John, 11 Hill St. 64116
Bates, Mrs. G. Comer, 102 E. 43rd St. 64116
Bowles, Mrs. Richard, 414 North Ridge 64068
Burk, Mrs. E. K., 1 E. Briarcliff 64116
Castillo, Mrs. Michael E., 3707 East 67th Terr., North 64119
Chastain, Mrs. Maurice W., 3 E. 47th St. North 64116
Chiles, Mrs. David R., Smithville 64089
Dunham, Mrs. Robert H., Route 29 64165
Dwyer, Mrs. R. D., 1000 S. Woodland Dr. 64118
Edwards, Mrs. Theodore F., 512 N.W. 43rd Terr. 64116
Fakhoury, Mrs. Donald A., 4332 N. Central 64116
Fischer, Mrs. Edward H., 4218 N.W. Briarcliff Lane 64116
Fowler, Mrs. 1. Charles, 700 E. Barnes Ave. 64118
Gaucr, Mrs. Robert J., 525 N.W. 43rd Terr. 64116
Hall, Mrs. James W., 4606 N. Cleveland 64117
Hayes, Mrs. Lawrence L., 440 N. Woodland Dr. 64118
Hedges, Mrs. Richard C., 530 Elms Blvd., Excelsior Springs 64024
Hendren, Mrs. Glen W., 516 W. Franklin, Liberty 64068
Hodge, Mrs. Robert H., 2204 E. 39th St. North 64116
Kimball, Mrs. I. W., 5621 Valley Rd. N.W. 64151
King, Mrs. Phillip, 222 Nashua Rd. 64068
Kuenzi, Mrs. Donald E., 924 S. Woodland Dr. 64118
Langhus, Mrs. Melvin D., 104 W. Englewood Rd. 64118
Lindquist, Mrs. Paul A., 4925 North Askew 64119
McCormick, Mrs. James E. 309 Northcrest Dr. 64116
McCracken, Mrs. S. R., 810 Old Orchard, Excelsior Springs 64024
McPhee, Mrs. William R., 1205 W. 76th 64114
Mullins, Mrs. B. L., Route 29 64155
Musgrave, Mrs. David E., 420 N. Kimball, Excelsior Springs 64024
Parker, Mrs. Robert H., 112 E. 43rd St. North 64116
Perry, Mrs. Lawrence L., Jr., 6300 N. Lenox 64151
Pileggi, Mrs. Felix A., 424 N.W. Briarcliff Rd. 64116
Revare, Mrs. Paul, 3245 Chippewa Dr. 64116
Roberts, Mrs. L. Marvin, 3709 North Briarcliff Rd. 64116
Robinson, Mrs. Van M., 415 Briarcliff Ct. 64116
Schertz, Mrs. Truman B., 428 N.W. Briarcliff Rd. 64116
Slaughter, Mrs. Carl, 6913 N. Birch Lane 64151
Spelman, Mrs. Arch E., Bridge St., Smithville 64089
Sportsman, Mrs. Weldon L., 6309 N. Grand 64118
Wald, Mrs. Donald M., 1608 E. 69th St. North 64118
Waterman, Mrs. Franklin M., 420 Glendale Rd. 64068
Werner, Mrs. Dean F., 4609 N. Main 64116
Werner, Mrs. Franklin C., 422 Sagamore La. 64116
Williams, Mrs. John M., 616 Ridgeway Dr., Liberty 64068
Williams, Mrs. R. D., Smithville 64089
Withrow, Mrs. John B., 3925 N. Main, 64116

COLE COUNTY
(Jefferson City 65101)

Bregant, Mrs. Robert, 1017 Laurel
Cox, Mrs. William A., 206 Swift, Swifts Highway
Dorris, Mrs. Richard P., 410 Ridgewood
Doyle, Mrs. Matthew J., 2311 Livingston
Enloe, Mrs. L. David, 1200 Moreland
Exon, Mrs. C. Stuart, Boonville Rd.
Fullgrabe, Mrs. Emil A., 1602 Taylor
Garner, Mrs. Lynn M., 403 Meier Dr.
Gentry, Mrs. Merritt Logan, 405 Norris Dr.
Gordon, Mrs. James, 600 Boonville Rd.
Gove, Mrs. Herman S., 712 Broadway
Guhleman, Mrs. Henry V., Jr., 1710 Greenberry Rd.
Gurnee, Mrs. Landon H., 121 Westmore
Handler, Mrs. Fred P., 614 Boonville Rd.
Kanagawa, Mrs. Harold Hajime, 734 Houchin
Kelly, Mrs. Marshall W., 1610 Greenberry Rd.
Klebba, Mrs. Larry B., Hwy. 50 West
Leslie, Mrs. J. Paul, 933 Fairmount
Leslie, Mrs. James T., Jr., 1552 Brookside Blvd.
Loyd, Mrs. Earl L., 114 Binder Dr.
McHaney, Mrs. John W., Hwy. 50 West
McKnelly, Mrs. Willian V., 1204 Lee
Matthews, Mrs. John I., 1310 Moreau Dr.
Meier, Mrs. Francis X., 1913 Hayselton Dr.
Meinershagen, Mrs. Charles W., 138 Forest Hill
Melia, Mrs. Bernard, 1507 Moreland
Ossman, Mrs. Julian A., 2505 W. Main
Ringo, Mrs. Henry, Centertown 65023
Robb, Mrs. Harold P., 1117 Leslie Blvd.
Russell, Mrs. Joseph P., 1517 Greenberry Rd.
Sanders, Mrs. Jack Shelby, 2008 Livingston Dr.
Scott, Mrs. David, 803 Mohawk
Sennott, Mrs. John Stephen, 102 Douglas Dr.
Shull, Mrs. G. Donald, 1925 Hayselton Dr.
Stauffer, Mrs. Harry Beach, Route 1
Stricker, Mrs. Harold C., 1205 Moreau Dr.
Sugarbaker, Mrs. Everett D., 2113 W. Main
Summers, Mrs. Joseph S., Jr., 2313 W. Main
Tanner, Mrs. Robert H., 1606 Greenberry Rd.
Taylor, Mrs. Leon A., 1104 W. Main
Tietjen, Mrs. Fred C., 7 Greentree Rd.
Watts, Mrs. Byron Edward, 2112 Forest Dr.
Winegar, Mrs. Alvon C., 222 Swift's Highway

COOPER COUNTY
(Boonville 65233)

Abele, Mrs. William Arved, Krohn Dr.
Avery, Mrs. Willard Bartlett, 20 Crestview
Beckett, Mrs. Theodore Cooper, 725 4th St.
Diekrocger, Mrs. Manuel Louis, Route 2
Draper, Mrs. Bernard Lee, 8 Boler Dr.
Hata, Mrs. Daikichi, 7 Morningside Dr.
Humphreys, Mrs. Edward Tristran, 1123 3rd St.
Stuart, Mrs. Byron McClellan, 910 Shamrock Terr.
Winn, Mrs. George Warren, 607 Poplar St.
Zeigler, Mrs. William Henry, Weyland Dr.

DUNKLIN COUNTY
(Kennett 63857)

Baldwin, Mrs. Paul, 200 W. Washington
Benson, Mrs. Leo J. J., 204 Wiggs
Cash, Mrs. Charles R., 800 College
Croom, Mrs. D. M., 403 Stokes Blvd.

Dunmire, Mrs. George Q., 504 S. Baker Dr.
English, Mrs. W. D., Cardwell 63829
Hunt, Mrs. John L., 802 Monroe Ave.
Legan, Mrs. John Keith, 1002 W. Washington 63857
Miltenberger, Mrs. Paul C., 705 W. Washington
Morehead, Mrs. William Edward, Malden 63863
Palenske, Mrs. R. L., Box 57, Hornersville 63855
Spence, Mrs. E. L., 301 College
Tarver, Mrs. Quinton, 1004 W. Washington
Zimmerman, Mrs. Joe A., 1105 Whiteoak Pl.

FRANKLIN-GASCONADE-WARREN COUNTIES

Baker, Mrs. Donald L., Porter Ford Rd., Union 63084
Bonney, Mrs. Sam, Washington 63090
Bozzo, Mrs. Raymond J., 1235 W. Main, Washington 63090
Brenner, Mrs. Paul A., 108 W. Washington Ave., Owensville 65066
Denny, Mrs. H. M., Union 63084
Eyermann, Mrs. Walter, Warrenton 63383
Giem, Mrs. R. N., 1250 Sappington Bridge Rd., Sullivan 63080
Hoelscher, Mrs. H. F., Hickory Haven, Warrenton 63383
Moellenhoff, Mrs. Robert, James St., Washington 63090
Muench, Mrs. Ludwig O., 1530 Riverview Dr., Washington 63090
Murney, Mrs. Joseph A., 210 Elm St., Washington 63090
Richardson, Mrs. G. A., Union 63084
Richardson, Mrs. W. R., 301 Hwy. 50 West, Union 63084
Ryan, Mrs. J. B., Cedar St., Washington 63090
Shaw, Mrs. Carvel T., 1008 Washington, Hermann 65041
Schmidt, Mrs. Charles, Gerald 63037
Strehlman, Mrs. B. G., 510 West End Ave., Union 63084

GRAND RIVER COUNTIES
(Caldwell-Carroll-Livingston-Grundy-Daviess-Harrison-Linn-Mercer-DeKalb Counties)

Atcheson, Mrs. Windsor, 108 Kavanaugh, Trenton 64683
Bales, Mrs. Eugene, 502 W. 3rd Terr., Carrollton 64633
Bohnsack, Mrs. Ralph, 635 Skyline Dr., Brookfield 64628
Broyles, Mrs. Watkins T., Bethany 64424
Clark, Mrs. Chester, 13 Town & Country, Trenton 64683
Conrad, Mrs. Joseph, 1202 Jackson, Chillicothe 64601
Cross, Mrs. Albert, 902 W. 17th, Trenton 64683
Daley, Mrs. Frank, 508 E. Sammuel, Hamilton 64644
Dixon, Mrs. John, 1005 Brookfield, Brookfield 64628
Dowell, Mrs. Donald, 1830 Calhoun, Chillicothe 64601
Ellsworth, Mrs. Willard, Cainsville 64632
Fair, Mrs. William, 1705 Calhoun, Chillicothe 64601
Fuson, Mrs. William, 520 Pleasant View, Trenton 64683
Gale, Mrs. Joseph, 1710 Polk, Chillicothe 64601
Gary, Mrs. George, 112 W. Houser, Marceline 64658
Gearhart, Mrs. Merriam, 2100 Beekman, Bethany 64424
Gilliland, Mrs. Charles, 817 West 4th, Cameron
Horner, Mrs. Glennon, W. Walker, Marceline 64658
Howell, Mrs. Billy, 157 Hunt, Brookfield 64628
Mairs, Miss Catherine, 412 E. 7th, Trenton 64683
Mandler, Mrs. George, 1616 Clay, Chillicothe 64601
Platz, Mrs. John, 804 N. Main, Carrollton 64633
Smith, Mrs. Robert, 509 E. Houser, Marceline 64658
Sweiger, Mrs. James, Maysville 64469
Todd, Mrs. Paul Craig, 218 W. Chicago, Marceline 64658
Vandiver, Mrs. V. D., 1836 Polk, Chillicothe 64601
Vinyard, Mrs. Jack, RFD, Carrollton 64633

GREENE COUNTY
(Springfield)

Allen, Mrs. Jerry H., 1324 S. Fairway Terr. 65804
Anthony, Mrs. Dallas D., 1322 S. Pickwick 65804
Ash, Mrs. Charles J., 743 Riverside 65804
Ashley, Mrs. Thomas E., 2740 Pythian 65802
Atkinson, Mrs. Thomas E., Route 9, Box 81A 65804
Auner, Mrs. Cecil R., 649 McCann 65804
Bailey, Mrs. Alan, 2242 Barataria 65804
Baldwin, Mrs. Richard M., 2033 Prairie Lane 65804
Bareis, Mrs. Robert, 408 N. Locust 65806
Blades, Mrs. Ross, 2845 E. University 65804
Bonebrake, Mrs. McDonald D., 1443 S. Delaware 65804
Broaddus, Mrs. Loren, 2017 So. Link 65804
Brown, Mrs. Lyman, 1410 N. Rogers 65802
Burkey, Mrs. Jordon W., 2405 Sheridan 65804
Buschman, Mrs. Milton, 2511 S. Weaver 65804
Callaway, Mrs. Guy, Jr., 901 E. Portland 65804
Callaway, Mrs. Guy D., 1155 S. Delaware 65804
Cheek, Mrs. Anne C., 1535 E. Meadowmere 65804
Christy, Mrs. Raymond A., 2738 S. Marlan 65804
Ciccone, Mrs. Pasquale, U. S. Medical Center 65801
Clarke, Mrs. Michael J., 2416 Brentwood 65804
Clary, Mrs. Wm. W., 2259 Mirabeau 65804
Clayton, Mrs. Edgar L., 2446 Brentwood 65804
Cochran, Mrs. Thomas E., 2423 Brentwood 65804
Coller, Mrs. Frederick B., 2433 Marlan 65804
Cox, Miss Eleanor, 1072 Roanoke 65804
Crawford, Mrs. Oral B., Route 1, Box 443 65803
Dietz, Mrs. M. Wendell, 2540 Edgewater 65804
Dillard, Mrs. Erin M., 2530 S. Marlan 65804
Dolan, Mrs. Daniel L., 2413 Claremont Circle 65804
Duncan, Mrs. Robert D., 1234 E. Loren 65804
Eastwood, Mrs. Robert A., 3043 Wilshire 65804
Elkins, Mrs. Ronald F., 2830 E. Glenwood 65804
Ellis, Mrs. Francis J., 2235 E. Glenwood 65804
Farthing, Mrs. Gene W., 1235 E. Walnut 65802
Ferguson, Mrs. John P., 1219 S. Clay 65804
Ferguson, Mrs. Mary V., c/o Mercy Villa, 1015 No. Main 65804
Fessenden, Mrs. Ersel M., 634 E. Kingsbury 65804
Fitch, Mrs. Max, 2523 S. Marlan 65804
Francis, Mrs. William C., 2820 E. Glenwood 65804
Freeman, Mrs. S. F., 1339 S. Pickwick 65804
Friedland, Mrs. Harry, 2329 S. Cedarbrook 65804
German, Mrs. Walter A., Jr., 2659 Luster 65804
Giddings, Mrs. Frank C., 1211 S. Pickwick 65804
Glynn, Mrs. Robert R. 1101 Benton 65802
Gorelick, Mrs. David F., 1041 Linwood Terr. 65804
Gose, Mrs. Don F., 1339 S. Delaware 65804
Griot, Mrs. Mary J., 1640 E. Sunshine 65804
Haffner, Mrs. Joel, 2300 S. Maryland 65804
Hall, Mrs. Durward G., 2442 S. Fremont 65804
Hanan, Mrs. Ernest B., 724 E. Kingsbury 65804
Hanss, Mrs. Armand W., Route 9, Box 604 65804
Harvey, Mrs. Harold D., 2531 Brentwood 65804
H'Doubler, Mrs. Alice, Route 7, Box 207 65802
H'Doubler, Mrs. Charles E., 1421 Bedford Rd. 65804
H'Doubler, Mrs. F. T., Jr., 2336 E. Glenwood 65804
H'Doubler, Mrs. Peter B., 1137 S. Pickwick 65804
Hildreth, Mrs. Arthur M., 3301 S. Dayton 65802
Holland, Mrs. Robert D., 2623 Luster 65804
Hollis, Mrs. Richard, 2236 Englewood Rd. 65801
Holmes, Mrs. Daniel E., 2115 S. Cedarbrook 65804
Holmes, Mrs. David R., 2237 E. Rosebrier 65804
Horton, Mrs. James D., 1235 E. Delmar 65804
Hulstra, Mrs. Han F. W., 2652 S. Luster 65804
Ivy, Mrs. H. Berry, 215 E. Sunshine 65804
Jameson, Mrs. James E., 1210 S. Weller 65804
Johnson, Mrs. George A., 2349 Edgewood 65804
Johnson, Mrs. Warford B., 2244 Edgewood 65804
Johnson, Mrs. Willian F., 973 E. Linwood Dr. 65804
Johnston, Mrs. Joseph L., 2855 Southern Hills 65804
Key, Mrs. James S., 2278 Englewood 65801
Kinzel, Mrs. Augustus, 2523 S. Weaver 65804
Klingner, Mrs. George M., Turners 65765
Klingner, Mrs. T. O., 1529 E. Elm 65804
Knabb, Mrs. Kenneth E., 1229 E. Catalpa 65804
Kolze, Mrs. Vernon W., 1854 Valley Rd. 65804
Langston, Mrs. W. Roland, 1453 S. Fairway 65804
Lemmon, Mrs. G. Bruce, 1462 Virginia 65804
Lewis, Mrs. Noel Rex, Route 9, Box 288 65804
Litton, Mrs. Lyle D., 3044 Shalimar 65804
Lockhart, Mrs. Charles E., 1600 E. Catalpa 65804
Lorenc, Mrs. Ernest, 2454 Luster 65804
Lowe, Mrs. H. A., Jr., 1700 E. Walnut 65802
Maple, Mrs. Francis M., 2115 E. Edgewood 65804
Maples, Mrs. Ruth, 1923 Ventura 65804
McAlhany, Mrs. Howard J., 1643 E. Catalpa 65804
McKinsey, Mrs. John J., 2504 S. Franklin 65804
Menchetti, Mrs. Don E., 2049 Roanoke 65804
Mentgen, Mrs. Carl, 3107 S. Ferguson 65804
Moore, Mrs. De A., U. S. Medical Center 65802
Moseley, Mrs. F. Thomas, 2837 Lomita Circle 65804
Napper, Mrs. Marvin L., Route 1, Ash Grove 65604
Overend, Mrs. Don S., 2218 Mirabeau 65804
Palcheff, Mrs. Chris L., Route 9, Box 400L 65801
Park, Mrs. William I., 815 E. Portland 65804
Parlato, Mrs. George, 2204 Shady Glen 65804
Penninger, Mrs. William H., 2246 Claiborne 65804
Peterson, Mrs. Stanley S., 721 E. Stanford 65804
Pipkin, Mrs. Anna, 924 N. Main 65802
Podrecca, Mrs. Guidd I., 2550 Brentwood 65804
Powell, Mrs. Edwin M., 1226 S. Weller 65804
Prater, Mrs. Bill George, 3000 Carlisle Cir. 65804
Pruett, Mrs. Paul L., 1036 E. Sunshine 65804
Rosen, Mrs. Max, 900 E. Walnut 65806
Sala, Mrs. Jose M., 2901 Utica Terr. 65804
Schroff, Mrs. Carle H., 2448 E. Broadmoor 65804
Schwartz, Mrs. Eugene J., 1315 E. Loren 65804
Schweitzer, Mrs. Fred C., 2550 Luster 65804
Siceluff, Mrs. Joseph G., Route 9, Box 84M 65804
Silsby, Mrs. Don J., 932 S. Pickwick 65804

Silsby, Mrs. Harry D., 1369 S. Fairway 65804
Simpson, Mrs. Albert P., 2202 Barataria 65804
Simpson, Mrs. E. L., 2133 Meadowview 65804
Snead, Mrs. William H., 2532 Sheridan 65804
Spalding, Mrs. David, 2119 S. Hills Blvd. 65804
Stewart, Mrs. Robert B., 2360 E. Grand 65804
Stufflebaum, Mrs. Robert E., 2248 Mirabeau 65804
Sturtevant, Mrs. Harwood N., 2859 Utica Terr. 65804
Thomasson, Mrs. David D., 2311 E. Glenwood 65804
Tillman, Mrs. Walter W., 1220 E. Loren 65804
Tombridge, Mrs. T. L., 2019 Holly Circle 65801
Trotter, Mrs. W. Yates, 910 E. University 65804
Turner, Mrs. Glenn O., 1462 S. Dollison 65804
Vensel, Mrs. Lee H., Jr., 2255 Meadowview 65804
Walker, Mrs. William M., 2845 S. Hills Blvd. 65804
Warres, Mrs. Herbert L., 2614 Englewood Rd. 65801
Webb, Mrs. Richard, 1243 E. Loren 65804
White, Mrs. R. Ned, Route 9, Box 600 65804
Wilinsky, Mrs. Howard, 3711 Whitehall Dr. 65804
Williams, Mrs. John W., 2245 Fritts La. 65804
Wilson, Mrs. Roy E., 2160 Barataria 65804
Wise, Mrs. Gordon F., 2850 Southern Hills 65804
Wittmer, Mrs. Samuel C., 2314 E. Washita 65804
Wood, Mrs. William W., Route 2, Box 101 65804
Wooldridge, Mrs. Wilfred E., 1126 E. Stanford 65804
Yancey, Mrs. Daniel L., 1133 S. Weller 65804
Zahn, Mrs. Robert, 1528 S. Fairway 65804

JACKSON COUNTY
(Kansas City)

Abella, Mrs. Terry K., 1103 W. 25th Terr. 64052
Adelman, Mrs. Arthur, 333 W. Meyer Blvd. 64113
Agee, Mrs. Loren Glenn, 2001 Stratford Rd. Shawnee Mission, Kan. 66208
Aks, Mrs. Daniel, 6009 W. 99th St., Shawnee Mission, Kan. 66207
Alderman, Mrs. Thomas F., 106 E. 127th
Allebach, Mrs. Hobart K. B., 3810 W. 65th Terr., Shawnee Mission, Kan. 66208
Allen, Mrs. Charles H., 616 W. Maple, Independence 64050
Allen, Mrs. William Bayne, 2801 W. 63rd, Shawnee Mission, Kan. 66208
Alsop, Mrs. Webb S., Jr., 3604 W. 53rd, Shawnee Mission, Kan. 66205
Altomare, Mrs. Edward P., 1030 W. 65th St. 64113
Altringer, Mrs. Arthur N., 5630 Mission Dr., Shawnee Mission, Kan. 66208
Ammatelli, Mrs. F. J., 605 E. 66th 64131
Anderson, Mrs. Raymond B., 6024 State Line, Shawnee Mission, Kan. 66208
Anderson, Mrs. Richard W., 1001 Romany Rd. 64113
Andrus, Mrs. Bailey C., 6508 Overbrook Rd., Shawnee Mission, Kan. 66208
Arms, Mrs. Arnold V., 6421 High Dr., Shawnee Mission, Kan. 66208
Aschmann, Mrs. T. H., 8740 Brooklyn 64130
Asher, Mrs. A. Graham, 5410 State Line Rd., Shawnee Mission, Kan. 66208
Atcheson, Mrs. Bellfield, 6524 Overhill Rd, Shawnee Mission, Kan. 66208
Atwell, Mrs. Floyd C., 630 W. 60th Terr. 64113
Averill, Mrs. Keith H., 9616 Riggs, Overland Park, Kan. 66204
Bachman, Mrs. Paul L., 1206 W. Truman Rd., Independence 64050
Baer, Mrs. Alvin J., 5800 Howe Dr., Shawnee Mission, Kan. 66205
Baker, Mrs. Philip J., 11440 E. 47th St. 64133
Ballard, Mrs. V. Bryce, 6618 Rainbow, Shawnee Mission, Kan. 66208
Bare, Mrs. Chester I., 10501 E. 78th Terr. 64133
Barelli, Mrs. Pat A., 5609 Mission Dr., Shawnee Mission, Kan. 66208
Barloon, Mrs. James H., 612 E. 66th 64113
Barnard, Mrs. John L., 825 W. 52nd 64112
Barnes, Mrs. Robert H., 4315 Rockhill Rd. 64131
Barnett, Mrs. Gordon P., 6568 High Dr., Shawnee Mission, Kan. 66208
Barry, Mrs. John W., 5510 W. 84th, Overland Park, Kan. 66204
Barry, Mrs. William B., 4600 Nichols Parkway 64112
Basantz, Mrs. Fernando V., 3418 W. 77th Terr., Shawnee Mission, Kan. 66208
Bay, Mrs. Merrill R., Woods Chapel Rd., Blue Springs 64015
Beck, Mrs. Calvin E., 6432 High Dr., Shawnee Mission, Kan. 66208
Becker, Mrs. Rolfe A., 5808 W. 94th Terr., Overland Park, Kan. 66204
Becker, Mrs. R. R., 5622 Holmes St. 64110
Bell, Mrs. William F., 307 Lakeview, Lee's Summit 64063
Bennett, Mrs. J. D., 3216 W. 69th, St., Shawnee Mission, Kan. 66208
Benoit, Mrs. Hector W., Jr., 2501 W. 64th St., Shawnee Mission, Kan. 66208
Berenson, Mrs. Sheldon E., 832 W. 63rd St. 64113
Bernreiter, Mrs. Michael, 1246 W. 63rd St. 64113
Berry, Mrs. G. Neill, 5650 High Dr., Shawnee Mission, Kan. 66208
Berry, Mrs. Maxwell G., 5020 Summit 64112
Biggs, Mrs. Alfred D., Jr., 7330 Rosewood, Prairie Village, Kan. 66208
Bikales, Mrs. Victor W., 5810 High Dr., Prairie Village, Kan. 66208
Bills, Mrs. Marvin L., 3309 W. 68th St., Shawnee Mission, Kan. 66208
Black, Mrs. Don A., 2700 W. 67th, Prairie Village, Kan. 66208
Black, Mrs. Eugene C., 3201 W. 67th St., Shawnee Mission, Kan. 66208
Blim, Mrs. Richard Don, 2209 W. 68th, Shawnee Mission, Kan. 66208
Bohan, Mrs. Peter T., 4545 Wornall Rd. 64111
Bordy, Mrs. Marvin D., 1911 Romany Rd., Shawnee Mission, Kan. 66208
Borenstine, Mrs. Joseph, 7307 Holmes 64131
Botwin, Mrs. Arnold E., 6010 Cherokee Dr., Shawnee Mission, Kan. 66205
Bourke, Mrs. Timothy S., 601 E. Meyer Blvd. 64131
Bowser, Mrs. John F., 3701 Madison 64111
Brams, Mrs. Jack B., 5050 Oak 64112
Braverman, Mrs. Abe Elliott, 2701 W. 68th, Shawnee Mission, Kan. 66208
Bridgens, Mrs. James G., 1025 Huntington Rd. 64113
Brown, Mrs. Adrian J., 12 E. 63rd St. 64113
Brown, Mrs. William R., 8124 Lee Blvd., Shawnee Mission, Kan. 66206
Brumm, Mrs. L. W., 7421 Wyoming 64114
Bruner, Mrs. Robert E., 14909 Little Blue Rd. 64136
Brust, Mrs. Carl H., 6114 Howe Dr., Shawnee Mission, Kan. 66205
Buckner, Mrs. Robert C., 3507 W. 87th St., Leawood, Kan. 66206
Budke, Mrs. Harold A., 1219 W. 66th Terr. 64113
Buhler, Mrs. Victor B., 5212 Bellview 64112
Bunting, Mrs. Williston P., 1231 W. 62nd 64113
Butcher, Mrs. Robert W., 1101 W. 86th Terr. 64114
Byers, Mrs. Philip, 5832 High Dr., Shawnee Mission, Kan. 66208
Caffrey, Mrs. Raymond J., 1314 W. Red Bridge Rd. 64114
Caldwell, Mrs. John K., 436 E. 65th Terr. 64131
Campbell, Mrs. Frederick B., 1032 W. 55th 64113
Carmichael, Mrs. Francis A., 5841 High Dr., Shawnee Mission, Kan. 66208
Carlson, Mrs. Hjalmar E., 2025 W. 48th Terr., Shawnee Mission, Kan. 66205
Casady, Mrs. Gilbert N., 9830 Aberdeen Dr., Shawnee Mission, Kan. 66206
Casford, Mrs. Ralph, 1236 W. 72nd St. 64114
Chambers, Mrs. James Q., Jr., 5500 Belinder Ave., Shawnee Mission, Kan. 66205
Chambers, Mrs. James Q., Sr., Park Lane Hotel, Apt. 201, 4600 J. C. Nichols Pkwy. 64112
Cheeseman, Mrs. William B., 5302 W. 79th Terr., Prairie Village, Kan. 66208
Childs, Mrs. Richard M., 5325 Mission Woods Terr., Shawnee Mission, Kan. 66205
Clark, Mrs. Irving H., 2811 Blue Ridge Ext., Grandview 64030
Coburn, Mrs. Donald F., 5620 Mission Dr., Shawnee Mission, Kan. 66205
Cochrane, Mrs. Joseph J., 3301 W. 68th, Shawnee Mission, Kan. 66208
Cockrell, Mrs. Sanford F., 3501 S. Crysler, Independence 64050
Coffey, Mrs. Ralph R., 814 Rockwell La. 64112
Cohen, Mrs. Harry K., 417 W. 70th 64113
Colom, Mrs. George A., 4002 W. 56th, Shawnee Mission, Kan. 66205
Connell, Mrs. Evan S., 837 W. 58th Terr. 64112
Cox, Mrs. Kenneth E., 5640 Pembroke La., Prairie Village, Kan. 66208
Cox, Mrs. William L., 1465 Spruce Ave., Liberty 64068
Crockett, Mrs. James, 5400 W. 83rd St., Prairie Village, Kan. 66208
Cross, Mrs. Walter M., 310 W. 49th St. 64112
Culbertson, Mrs. William F., 1253 Huntington Rd. 64113
Curran, Mrs. Desmond, 6626 Wenonga Terr., Prairie Village, Kan. 66208
Curts, Mrs. Calvin J., 808 W. 67th Terr. 64113
Davis, Mrs. Donald R., 2501 W. 67th St., Shawnee Mission, Kan. 66208
Davis, Mrs. Herbert V., 4601 Holmes 64110
Davis, Mrs. Jack M., 7110 Harecliff Dr. 64133
Davis, Mrs. Robert C., 659 W. 61st Terr. 64113
Demott, Mrs. John D., 4402 Homestead Dr., Prairie Village, Kan. 66208
Demotte, Mrs. John A., 1247 W. 56th St. 64113
Dennie, Mrs. Charles C., 2600 Verona Rd., Shawnee Mission, Kan. 66208
Deweese, Mrs. Everett R., 3316 W. 69th, Prairie Village, Kan.
Dixon, Mrs. V. L., 2501 W. Paseo 64108
Dlabal, Mrs. L. J., 3729 Blue Ridge Blvd., Independence 64052
Doane, Mrs. William L., 1102 130th St., Grandview 64030
Dodge, Mrs. Mark, 5820 State Line Rd., Shawnee Mission, Kan. 66208
Dolezal, Mrs. Joseph B., 7928 Outlook, Prairie Village, Kan. 66208
Dorsch, Mrs. E. H., 3516 Claremont, Independence 64052
Downey, Mrs. James W., 6218 W. 64th Terr., Shawnee Mission, Kan. 66205
Drake, Mrs. Roy F., 6600 Outlook, Shawnee Mission, Kan. 66202
Draney, Mrs. Thomas L., 6415 Main 64113
Drisko, Mrs. Robert M., 2100 Stratford Rd., Shawnee Mission, Kan. 66208
Duncan, Mrs. Wm. H., Jr., 808 W. 69th St. 64113
Durnell, Mrs. Monaford D., 308 Lincolnwood Dr., Lee's Summit 64063
Edmonds, Mrs. D. D., 9009 Mission Rd., Leawood, Kan. 66206
Eiseman, Mrs. Gustave, 7908 Campbell 64131
Elias, Mrs. David J., 10311 Sheley Rd., Independence 64052
Elliott, Mrs. R. Glen, 6136 Reinhardt Dr., Shawnee Mission, Kan. 66205
Elser, Mrs. Otto H., 604 Rankin Rd., Independence 64050
Engelking, Mrs. David F., 6504 Claremont, Raytown 64133
Engelmann, Mrs. Calvin E., 4916 W. 57th Terr., Shawnee Mission, Kan. 66205
Eshelman, Mrs. A. D., 12116 E. 46th 64133
Etzenhouser, Mrs. Merrill, 1215 W. 35th Terr., Independence 64050
Etzenhouser, Mrs. Russell D., 1317 W. College, Independence 64050
Eubank, Mrs. Dillard M., 6020 Elm 64133
Eubank, Mrs. Will R., 6113 Lane 64133
Eubank, Mrs. William Y., 6411 Morningside Dr. 64113
Farley, Mrs. Claude C., 3312 W. 87th, Leawood, Kan. 66206
Farney, Mrs. Jacob P., 2721 W. 69th St., Shawnee Mission, Kan. 66208
Farnsworth, Mrs. Jesse J., 5608 Fairway, Shawnee Mission, Kan. 66205

Feierabend, Mrs. Frank L., 7345 Wyoming 64114
Ferguson, Mrs. Eugene H., 333 W. Meyer Blvd., Apt. 504 64113
Ferguson, Mrs. James T., 718 E. Armour 64109
Ferris, Mrs. Carl R., 629 W. 70th Terr. 64113
Finkle, Mrs. Robert H., 7507 E. 80th Terr., Raytown 64052
Fitzgerald, Mrs. Robert H., 2700 W. 69th St., Shawnee Mission, Kan. 66208
Flanders, Mrs. Horace F., 3820 W. 65th Terr., Shawnee Mission, Kan. 66208
Flanders, Mrs. Virgil, 3304 W. 87th St., Leawood, Kan. 66206
Flynn, Mrs. James F., 3029 W. 74th, Shawnee Mission, Kan. 66208
Folck, Mrs. William P., 5804 Linden Rd., N.W., Parkville 64151
Forman, Mrs. Louis H., 2801 W. 67th St., Shawnee Mission, Kan. 66208
Forsythe, Mrs. Robert W., 6457 Verona Rd., Shawnee Mission, Kan. 66208
Foster, Mrs. Hal, 5050 Oak St., Apt. 1028 64112
Fouts, Mrs. Dallas, Sr., 13101 E. 43rd St., Independence 64050
Fowler, Mrs. Fred D., 1231 W. 56th 64110
Fredeen, Mrs. Robert C., 5437 Canterbury Rd., Shawnee Mission, Kan. 66205
Frick, Mrs. J. Paul, 116 Huntington Rd. 64113
Friedman, Mrs. Morris L., 2516 W. 69th St., Shawnee Mission, Kan. 66208
Fritzlen, Mrs. Thomas J., 825 W. 63rd 64113
Fuhrman, Mrs. Donald L., 3417 W. 68th St., Prairie Village, Kan. 66208
Fulton, Mrs. Albert E., 9501 Madison Ave. 64114
Fury, Mrs. Tex E., 642 Huntington Rd. 64113
Gainey, Mrs. Harold L., 4907 Sunset Dr. 64112
Ganley, Mrs. Wm. Coyle, 8400 Overhill Dr. 64138
Gard, Mrs. Raymond F., 11530 Winner Rd., Independence 64052
Garrison, Mrs. Roy R., 404 W. 67th Terr. 64113
Geha, Mrs. Braham J., 9814 Lee Blvd., Leawood, Kan. 66206
Geiger, Mrs. W. A., Jr., 3506 W. 92nd Terr., Leawood, Kan. 66206
Gestring, Mrs. Hugh A., 3915 W. 90th Terr., Overland Park, Kan.
Gibson, Mrs. David M., 5318 Sunset Dr. 64112
Gilkey, Mrs. Harry M., 4941 Westwood Rd. 64112
Gillen, Mrs. Billy A., 6500 Maple Drive, Mission, Kan.
Gillmor, Mrs. C. Stewart, 420 E. Armour 64109
Ginardi, Mrs. Donald E., 4615 Gennessee 64112
Ginsberg, Mrs. Norman A., 1220 W. 67th St. 64113
Gist, Mrs. W. W., 1208 W. 58th St. 64113
Goldman, Mrs. Stanley, 5734 Windsor Dr., Shawnee Mission, Kan. 66205
Goldsich, Mrs. Edward, 5515 W. 81st St., Prairie Village, Kan. 66208
Goldstein, Mrs. Marvin F., 400 E. 91st St. 64131
Goodson, Mrs. W. H., Jr., 46 E. 54th St. 64112
Goolsbee, Mrs. Robert L., 6438 Sagamore, Shawnee Mission, Kan.
Gottsch, Mrs. Joseph C., 7904 Granada, Prairie Village, Kan. 66208
Grakske, Mrs. Charles F., 14203 Kentucky Rd., Independence 64050
Graham, Mrs. Wallace H., 5157 Ward Pkwy. 64112
Green, Mrs. John R., 3424 Norton, Independence 64052
Green, Mrs. John Richard, 3143 Santa Fe Terr., Independence 64052
Greene, Mrs. W. Wallace, 2008 W. 68th St., Shawnee Mission, Kan. 66208
Griffith, Mrs. George W., 4010 Harrison 64110
Griffith, Mrs. John A., Jr., 6500 Granada Dr., Shawnee Mission, Kan. 66208
Growdon, Mrs. John A., 1207 Stratford Rd. 64113
Guastello, Mrs. M. J., 4124 W. 95th, Apt. 110, Shawnee Mission, Kan. 66207
Gullett, Mrs. Charles C., 8815 W. 72nd Terr., Shawnee Mission, Kan. 66204
Gundle, Mrs. Sigmund, 5926 Windsor Dr., Shawnee Mission, Kan. 66205
Habib, Mrs. Henry N., 440 E. 74th Terr. 64131
Haight, Mrs. John M., 5609 Blue Ridge Blvd. 64133
Hall, Mrs. Thomas B., 4550 Warwick Blvd., Apt. 504 64111
Halperin, Mrs. Phillip H., 1011 W. 56th 64113
Hamel, Mrs. Herbert A., 6441 High Dr., Shawnee Mission, Kan. 66208
Hamill, Mrs. Robert W., 6945 Nieman Rd., Shawnee Mission, Kan. 66203
Hardy, Mrs. H. M., 6606 Overhill Rd., Shawnee Mission, Kan. 66208
Harless, Mrs. Morris S., 6844 Cherry 64131
Harrin, Mrs. William R., 119 W. 116th 64114
Hartwig, Mrs. Fred H., 5204 Pawnee Dr., Shawnee Mission, Kan. 66205
Hartwig, Mrs. Raymond W., 3110 Tomahawk, Shawnee Mission, Kan. 66208
Hausheer, Mrs. Herman, 12900 36th Terr., Independence 64050
Haynes, Mrs. Solon E., 5306 Holmes 64110
Helman, Mrs. Richard G., 6540 Wenonga Rd., Shawnee Mission, Kan. 66208
Herrman, Mrs. George V., 8331 Maple Lane, Overland Park, Kan. 66204
Hess, Mrs. Paul D., 8423 High Dr., Leawood, Kan. 66206
Hibbard, Mrs. Blaine Z., 5211 Sunset Dr. 64112
Hickerson, Mrs. William H., 4207 S. Crysler, Independence 64050
Hill, Mrs. J. H., 8115 Meadow La., Leawood, Kan. 66206
Hink, Mrs. Fred W., 524 Hardy, Independence 64053
Hoadley, Mrs. William D., 9625 Beverly, Shawnee Mission, Kan. 66212
Hodgson, Mrs. Frank H., 1049 W. 55th 64112
Hoeper, Mrs. Samuel D., 13009 12th, Grandview 64030
Hoffman, Mrs. J. S., 5920 Cherokee Dr., Shawnee Mission, Kan. 66205
Hollweg, Mrs. Kenneth C., 808 W. Meyer Blvd. 64113
Holton, Mrs. Edward B., 2817 Westport Rd., Independence 64052
Hook, Mrs. Waller G., 9238 State Line, Leawood, Kan. 66206
Hungate, Mrs. Carroll P., 6845 Oak 64113
Hunt, Mrs. Claude J., 615 W. 56th St., 64113
Hunt, Mrs. Thomas R., 5804 El Monte Dr., Shawnee Mission, Kan. 66205
Hunter, Mrs. Martin P., 4100 W. 93rd, Shawnee Mission, Kan. 66207
Hunzicker, Mrs. Warren J., 1248 Stratford Rd. 64113
Ingham, Mrs. Walton C., 9723 Overbrook Rd., Leawood, Kan. 66206
Irvine, Mrs. John, 6022 W. 76th Pl., Shawnee Mission, Kan. 66208
Irwig, Mrs. Fred, 5109 W. 87th, Shawnee Mission, Kan. 66207
Jackson, Mrs. Jabez N., 840 W. 58th Terr. 64133
Jacob, Mrs. Walter P., 1002 Romany Rd. 64113
Jacobs, Mrs. Morton, 6414 Verona Rd., Prairie Village, Kan. 66208
Jacobs, Mrs. Walter Harvey, 66656 Milhaven Dr., Shawnee Mission, Kan. 66202
James, Mrs. Otis E., Jr., 2810 W. 68th St., Shawnee Mission, Kans. 66208
Jansen, Mrs. Robert, 440 E. 66th 64131
Jarvis, Mrs. James A., 600 W. 57th St. 64113
Jenab, Mrs. Morteza, Route 2, Box 171, Blue Springs 64015
Johnson, Mrs. James S., 2824 Benton Blvd. 64128
Johnstone, Mrs. Paul N., 117 W. 69th Terr. 64113
Jonas, Mrs. Harry S., 11711 Markham Rd., Independence 64025
Jones, Mrs. Gale O., 6503 Summit 64113
Jones, Mrs. T. Reid, 5927 Lockton La., Shawnee Mission, Kan. 66205
Justus, Mrs. John B., 5221 Howe Dr., Shawnee Mission, Kan. 66205
Kanarek, Mrs. Joseph, 6112 W. 87th Terr., Leawood, Kan. 66206
Kantor, Mrs. Julius M., 6708 High Dr., Shawnee Mission, Kan. 66208
Kantor, Mrs. Samuel, 3604 W. 87th, Leawood, Kan. 66206
Kaul, Mrs. Philip G., 5310 Mission Woods Rd., Shawnee Mission, Kan. 66205
Keeler, Mrs. James E., 651 57th 64113
Kendall, Mrs. Charles A., 658 Red Rd., Independence 64050
Kennard, Mrs. G. Keith, 3658 Madison 64111
Kenny, Mrs. John A., 6834 Linden Dr., Prairie Village, Kan.
Kent, Mrs. Bela, 5839 Cherokee Dr., Shawnee Mission, Kan. 66205
Ketcham, Mrs. William Merrit, 4550 Warwick 64111
Kettner, Mrs. Edward G., 6510 Milhaven Dr., Shawnee Mission, Kan. 66202
Kiene, Mrs. Richard H., 5835 High Dr., Shawnee Mission, Kan. 66208
Kimball, Mrs. Merritt H., 610 E. 36th 64109
King, Mrs. Tenbrook, 8228 Linden Dr., Prairie Village, Kan. 66208
Kitchen, Mrs. W. M., 2700 W. 68th, Shawnee Mission, Kan. 66208
Klein, Mrs. E. H., 7011 Roe, Prairie Village, Kan. 66208
Knight, Mrs. John S., 5800 High Dr., Shawnee Mission, Kan. 66208
Knight, Mrs. Lyle B., 108 Madison La., Lee's Summit 64063
Knoch, Mrs. H. Kermit, 6606 Willow La., Shawnee Mission, Kan. 66208
Koontz, Mrs. Paul G., 301 W. 54th 64112
Korth, Mrs. William M., 6615 Overhill Rd., Shawnee Mission, Kan. 66208
Kranson, Mrs. Seymour J., 11 Hawthorne Pl., Independence 64052
Krueger, Mrs. Haven, 7700 Booth Dr., Prairie Village, Kan. 66208
Kyger, Mrs. John E., 3612 Blue Ridge, Independence 64052
Lally, Mrs. James J., 800 W. 52nd Terr. 64112
Lamar, Mrs. Frederick C., 803 W. 48th St., Apt. 12 64112
Lamar, Mrs. Robert F., 800 W. 53rd Terr. 64112
Lambie, Mrs. Roger W., 9261 Reeder Dr., Shawnee Mission, Kan. 66204
Landis, Mrs. George K., 10115 Pawnee La., Shawnee Mission, Kan. 66206
Lapp, Mrs. Harry C., 638 W. 59th 64113
Latham, Mrs. Raymond W., 3008 W. 67th, Shawnee Mission, Kan. 66208
Lauer, Mrs. Daniel J., 21 E. 67th St. 64113
Layton, Mrs. Ira C., 1025 Greenway Terr. 64113
Lee, Mrs. Henry A., 9821 Sagamore Rd., Leawood, Kan. 66206
Leifer, Mrs. William, 2001 W. 70th, Shawnee Mission, Kan. 66208
Leitch, Mrs. Cecil G., Route 2, Box 222, Blue Springs 64015
Leitz, Mrs. Frank B., 308 W. 116th 64114
Lemoine, Mrs. Albert N., Sr., 9200 High Dr., Leawood, Kan. 66206
Leo, Mrs. William A., 4505 W. 66th St., Prairie Village, Kan. 66208
Lewis, Mrs. Revis C., 1001 W. 56th St. 64113
Lichtor, Mrs. Joseph M. 2109 W. 70th St., Prairie Village, Kan. 66208
Lieberman, Mrs. B. Albert, Jr., 1229 W. 67th 64113
Liersch, Mrs. Joseph C., 815 E. Gregory Blvd. 64131
Lindquist, Mrs. Carl N., 6437 Hodges Dr., Mission, Kan.
Link, Mrs. Vance E., 1201 W. 36th St., Independence 64050
Littlejohn, Mrs. Robert, 6029 Catalina, Shawnee Mission, Kan. 66205
Lloyd, Mrs. Ivan E., 1816 Rankin Dr., Independence 64050
Long, Mrs. R. Stacy, 3343 Blue Ridge Blvd., Independence 64052
Lowell, Mrs. Paul, 4742 Liberty 64112
Lytton, Mrs. George J., 617 W. 49th 64112
Maccubbin, Mrs. Don A., 8361 Somerset Dr., Shawnee Mission, Kan. 66207
Mangels, Mrs. Kenneth A., Sr., 1103 W. 36th Terr., Independence 64050
Mantz, Mrs. Herbert L., 1209 Romany Rd. 64113
Marks, Mrs. Mark M., 6537 Summit 64113
Marshall, Mrs. C. F., 5510 Belinder Rd., Shawnee Mission, Kan. 66205
Martin, Mrs. Clyde V., 5531 E. Mission Dr., Shawnee Mission, Kan. 66208
Masterson, Mrs. Byron J., 5910 Sunrise Dr., Shawnee Mission, Kan. 66205

Masucci, Mrs. Joseph M., 1012 W. 96th Terr. 64114
May, Mrs. James W., 3501 W. 63rd St., Shawnee Mission, Kan. 66208
Mayer, Mrs. John H., Jr., 829 W. 55th St. 64113
McCanse, Mrs. Andrew, 1232 W. 60th Terr. 64113
McClanahan, Mrs. Robert C., 6456 Overbrook Rd., Shawnee Mission, Kan. 66208
McCoy, Mrs. Fred, 5720 Foster, Shawnee Mission, Kan. 66202
McCunniff, Mrs. William B., 3719 Jarboe 64111
McDonnell, Mrs. John F., 5411 Central 64113
McFarland, Mrs. M. Donald, 5830 High Dr., Shawnee Mission, Kan. 66208
McGannon, Mrs. Paul T., 4806 Pawnee La., Shawnee Mission, Kans. 66205
McHale, Mrs. Thomas Cecil, 3003 W. 90th Terr. 66206
McIntosh, Mrs. Donald E., 4335 Brentwood, Independence 64050
McKee, Mrs. Joseph W., 9610 Overbrook Rd., Leawood, Kan. 66206
McKee, Mrs. Wallace P., 2020 Stratford Rd., Shawnee Mission, Kan. 66208
McLeod, Mrs. John, 9 E. 67th St. 64113
McMillan, Mrs. Thomas E., 8201 Dearborn, Shawnee Mission, Kan. 66208
McRay, Mrs. Glen, 3715 Johnson Dr., Shawnee Mission, Kan.
McVay, Mrs. James R., Jr., 1233 W. 63rd Terr. 64113
Medlicott, Mrs. William J., 1260 W. 59th 64113
Melgaard, Mrs. S. Ross, 1012 W. 61st Terr. 64113
Meyer, Mrs. Paul W., 5160 Sunset Dr. 64112
Meyers, Mrs. Harold L., 1901 Brookwood Rd., Shawnee Mission, Kan. 66208
Miles, Mrs. George O., 2231 W. 63rd, Shawnee Mission, Kan. 66208
Miller, Mrs. Clint L., 211 Oxford Dr., Lee's Summit 64063
Miller, Mrs. Gerald L., 836 W. 51st 64112
Miller, Mrs. Max I., 4001 W. 66th St., Prairie Village, Kan. 66208
Miller, Mrs. Wade H., 4550 Warwick Blvd., Apt. 508 64111
Miller, Mrs. Wilson Herrick, 6400 Verona Rd., Shawnee Mission, Kan. 66208
Mixson, Mrs. William C., 6501 Sagamore Rd., Shawnee Mission, Kan. 66208
Montello, Mrs. Samuel A., 4109 Delmar Dr., Prairie Village, Kan. 66208
Mooney, Mrs. Justin L., 5717 Windsor Rd., Shawnee Mission, Kan. 66205
Mooney, Mrs. Marcel L., 6439 Ensley La., Prairie Village, Kan. 66208
Moreano, Mrs. Armando H., 6615 W. 62nd, Mission, Kan. 66202
Morgan, Mrs. David B., 6513 Jefferson 64113
Morris, Mrs. Joseph H., 5017 George 64133
Morrow, Mrs. Raymond L., 17 W. 69th 64113
Moss, Mrs. Paul, 420 E. 64th Terr. 64131
Mosser, Mrs. Robert S., 3114 S. Norton, Independence 64052
Mueller, Mrs. M. J., 6441 Holmes 64131
Mullen, Mrs. Leo M., 4441 Paseo Blvd. 64110
Murphy, Mrs. Edward S., 421 W. 68th St. 64113
Murphy, Mrs. Robert J., 6428 High Dr., Shawnee Mission, Kan. 66208
Muth, Mrs. Robert G., 9336 Ballentine La., Overland Park, Kan. 66214
Myers, Mrs. Robert M., 804 W. 65th 64113
Myers, Mrs. Wilson A., 425 Huntington Rd. 64113
Naime, Mrs. Mansour J., 5209 W. 79th, Shawnee Mission, Kan. 66208
Nelson, Mrs. Bentley A., 6429 Willow La., Shawnee Mission, Kan. 66208
Nesselrode, Mrs. John H., 12000 Marbec Trail, Independence 64052
Nickson, Mrs. Charles E., Jr., 4425 Larson 64133
Nigro, Mrs. E. Robert, 415 W. 55th 64113
Noback, Mrs. R. K., 628 W. 67th 64113
Noltensmeyer, Mrs. Milton, 3305 S. 50th Terr., Shawnee Mission, Kan. 66205
Nunn, Mrs. P. M., 3418 Karnes Blvd. 64111
O'Hearne, Mrs. John J., 5529 High Dr., Shawnee Mission, Kan. 66208
O'Neil, Mrs. James H., 2111 W. 69th Terr., Shawnee Mission, Kan. 66202
Overesch, Mrs. Harry B., 10804 Grandview Rd. 64113
Ozar, Mrs. Milton B., 1206 W. 62nd 64110
Padfield, Mrs. Earl G., 1900 W. 61st Terr., Shawnee Mission, Kan. 66208
Pakula, Mrs. Sidney F., 5225 Charlotte 64110
Pallett, Mrs. Harold A., 4618 Warwick 64112
Parelman, Mrs. Allen G., 6737 Rockhill Rd. 64113
Parker, Mrs. Hubert M., 1200 W. Red Bridge Rd. 64114
Passman, Mrs. Harold, 416 E. 72nd Terr. 64131
Pearson, Mrs. Paul, 5820 Howe Dr., Shawnee Mission, Kan. 66205
Peete, Mrs. Don Carlos, 3717 Belleview 64111
Perico, Mrs. Carlos, 7500 Booth Dr., Prairie Village, Kan. 66208
Perll, Mrs. Maurice F., 830 W. 61st Terr., 64113
Perry, Mrs. Ralph, 7140 Sni-A-Bar Rd. 64129
Peterson, Mrs. Milton C., 8381 Somerset Dr., Shawnee Mission, Kan. 66207
Petry, Mrs. E. L., 6520 Reeds Dr., Shawnee Mission, Kans. 66202
Pfeutze, Mrs. Edwin L., 5407 W. 100th Terr., Overland Park, Kan. 66204
Pinsker, Mrs. O. T., 6521 Wenonga Terr., Shawnee Mission, Kan. 66208
Piper, Mrs. Donald K., 9929 High Dr., Shawnee Mission, Kan. 66206
Pipkin, Mrs. Garrett, 5427 Baltimore 64112
Pollock, Mrs. Leo H., 6601 Wenonga Terr., Shawnee Mission, Kan. 66208
Pope, Mrs. Charles M., Jr., 14401 E. 44th, Independence 64050
Porter, Mrs. Louis, 6017 McGee St., 64113
Potts, Mrs. Donald, 18508 E. 30th Terr., Independence 64050
Powers, Mrs. John M., 3838 Blue Ridge Blvd., Independence 64052
Preston, Mrs. Albert, Jr., 606 W. Meyer Blvd. 64113
Printz, Mrs. Joseph H., 820 W. 64th Terr. 64113
Pugh, Mrs. Richard George, 600 Dickinson Rd., Independence 64050
Quer, Mrs. Erich A., 6820 Tomahawk Rd., Shawnee Mission, Kan. 66208
Quistgard, Mrs. Paul C., 7300 Manchester 64133
Raich, Mrs. Robert A., 828 Greenway Terr. 64113
Ramey, Mrs. Ehret O., 8108 Ward Parkway Plaza 64114
Rector, Mrs. Joe Lee, Jr., 3915 W. 53rd St., Shawnee Mission Kan. 66205
Reinhardt, Mrs. G. Robert, 1201 Romany Rd. 64113
Rhoades, Mrs. Arthur, 110th & Antioch Rd., Box 292, Lenexa, Kan. 66051
Riller, Mrs. L. E., 1267 W. 61st 64113
Rinkel, Mrs. Marie Thiessen, 6405 Sagamore Rd., Shawnee Mission, Kan. 66208
Roberts, Mrs. Harold M., 1005 Brentwood Cir. 64112
Roberts, Mrs. Sam E., 5964 Overhill Rd., Shawnee Mission, Kan. 66208
Robinson, Mrs. Arthur W., 6600 Wenonga Rd., Shawnee Mission, Kan. 66208
Robinson, Mrs. Ernest Kip, 1015 W. 58th Terr. 64113
Robinson, Mrs. William J., 9931 Lee Cir., Shawnee Mission, Kan. 66206
Robison, Mrs. James Travis, Jr., 4203 W. 92nd Terr., Shawnee Mission, Kan. 66207
Rodgers, Mrs. George H., 10041 El Monte La., Overland Park, Kans. 66204
Rubin, Mrs. Sidney, 1287 W. 72nd 64114
Rubnitz, Mrs. Leon H., 210 W. 94th 64114
Sabates, Mrs. Felix, 5301 Pawnee Lane, Shawnee Mission, Kan. 66206
Saferstein, Mrs. A. Lester, 6859 Cherry 64131
Sanders, Mrs. Clarence E., 4700 Roanoke Pkwy. 64112
Sanders, Mrs. Donald, 11721 Oak 64114
Sanders, Mrs. William F., 1004 W. 66th Terr. 64113
Sauer, Mrs. Gordon C., 830 W. 58th Terr. 64113
Saunders, Mrs. Everett L., 3839 S. Crysler, Independence 64050
Schaerrer, Mrs. W. C., 5245 Mercier 64112
Schiffmacher, Mrs. Jack E., 4517 W. 65th, Prairie Village, Kan. 66208
Schmidt, Mrs. C. Robert, 5306 Mission Woods Rd., Shawnee Mission, Kan. 66205
Schorer, Mrs. Edwin Henry, The Walnuts, 5049 Wornall Rd. 64112
Schottman, Mrs. Gerhard W., Jr., 5010 W. 96th Terr., Shawnee Mission, Kan. 66207
Seely, Mrs. Clark W., 3000 W. 68th St., Shawnee Mission, Kan. 66208
Sells, Mrs. Kenneth J., 5924 Delmar, Mission, Kan. 66222
Shapiro, Mrs. L. M., 6429 Holmes 64131
Shecter, Mrs. Nathan, 5723 Windsor Dr., Shawnee Mission, Kan. 66205
Shelden, Mrs. Russell D., 816 W. 58th Terr. 64113
Shifrin, Mrs. Alexander, 6824 Holmes 64131
Shireman, Mrs. Kenneth L., 55th Terr. & Noland Rd., Route 3 64133
Shockley, Mrs. Clarence, 5927 McGee 64113
Shuey, Mrs. Herbert H., 933 E. 77th Terr. 64131
Shumate, Mrs. D. L., 3703 Penn 64111
Shypper, Mrs. M. J., 4738 Oak 64112
Simon, Mrs. Sanford, 8129 Rosewood, Shawnee Mission, Kan. 66208
Sinclair, Mrs. Alexander B., Jr., 1230 W. 61st Terr. 64113
Singleton, Mrs. J. Milton, 4618 Warwick Blvd., 64112
Singleton, Mrs. J. Milton, III, 634 W. 60th Terr. 64113
Skillman, Mrs. Robert K., 10335 High Dr., Shawnee Mission, Kan. 66206
Skinner, Mrs. John T., 824 Westover Rd. 64113
Slankard, Mrs. J. Edward, 7223 Summit 64114
Slentz, Mrs. Edwin L., 4812 W. 66th Terr., Shawnee Mission, Kan. 66208
Slentz, Mrs. William A., 9835 Pembroke Lane, Leawood, Kan. 66206
Slickman, Mrs. Robert A., 4937 Wyoming 64112
Smith, Mrs. Arthur B., 10130 Pawnee La., Leawood, Kan. 66206
Smith, Mrs. Dale C., 6617 Wenonga Terr., Shawnee Mission, Kan. 66208
Smith, Mrs. Ira T., 2 Wycklow, Shawnee Mission, Kan. 66207
Smith, Mrs. O. D., 6300 Woodson Rd., Mission, Kan. 66202
Smith, Mrs. Wallace B., 3611 S. Delaware, Independence 64050
Sneid, Mrs. Philip, 4201 W. 90th Terr., Overland Park, Kan. 66204
Snider, Mrs. Sam H., 722 Ward Parkway 64112
Snider, Mrs. W. Ray, 14501 Berkshire Dr., Independence 64050
Spafford, Mrs. Allen L., 5552 Belinder Ave., Shawnee Mission, Kan. 66205
Spencer, Mrs. Donald M., 10200 E. 85th Terr., Raytown 64138
Spurny, Mrs. Otto M., 6400 Cherry 64131
Stacey, Mrs. Wallace R., 3407 Shady Bend Dr., Independence 64052
Staggs, Mrs. William A., 641 E. 45th St. 64110
Staley, Mrs. Harry R., 5028 Sunset Dr. 64112
Statland, Mrs. Harry, 1016 W. 69th Terr. 64113
Statland, Mrs. Morris, 2911 W. 66 Terr., Shawnee Mission, Kan. 66208
Steffen, Mrs. L. F., 5521 Crestwood Dr. 64110
Stelle, Mrs. Charles W., 4304 W. 82nd Terr., Shawnee Mission, Kan. 66208
Stelmach, Mrs. W. Jack, 6100 Morningside Dr. 64113
Stockton, Mrs. Raymond W., 5215 W. 81st, Prairie Village, Kan. 66208
Stockwell, Mrs. A. Lloyd, 5736 Windsor Dr., Shawnee Mission, Kan. 66205
Stribling, Mrs. Thomas L., 5006 George St. 64133
Summers, Mrs. Caldwell B., 7312 Jarboe 64114
Sutton, Mrs. Richard L., Jr., 5400 Ward Pkwy. 64112
Swisher, Mrs. Robert C., 6034 Lockton La., Shawnee Mission, Kan. 66205
Szabados, Mrs. Ernest D., 1901 S. Leslie, Independence 64050
Tarson, Mrs. Solomon S., 5511 W. 85th, Overland Park, Kan. 66204
Tasker, Mrs. Charles B., 2721 W. 67th Terr., Shawnee Mission, Kan. 66208
Teare, Mrs. Max, 11201 Walnut 64114

Terrill, Mrs. Robert S., 10223 Lee Blvd., Leawood, Kan. 66206
Thiele, Mrs. George H., 6526 High Dr., Shawnee Mission, Kan. 66208
Thomas, Mrs. Christopher Y., Jr., 5830 Mission Dr., Shawnee Mission, Kan. 66208
Thompson, Mrs. Charles L., 1256 W. 61st Terr. 64113
Tice, Mrs. Wayne K., 3504 S. Delaware, Independence 64050
Trippe, Mrs. Harrison C., 317 W. 51st 64112
Troch, Mrs. Richard, 3520 Rogers Lane, Independence 64050
Trowbridge, Mrs. E. H., Jr., 6436 High Dr., Shawnee Mission, Kan. 66208
Tutera, Mrs. D. F., 1260 W. 63rd Terr. 64113
Twin, Mrs. Edward, 2921 W. 67th Terr., Shawnee Mission, Kan. 66208
Twyman, Mrs. Richard A., 1020 W. 56th St. 64113
Underwood, Mrs. Dick Holland, 2008 W. 95th St., Leawood, Kan. 66206
Underwood, Mrs. Harry A., 6516 Aberdeen, Shawnee Mission, Kan. 66208
Valins, Mrs. Eugene, 9518 W. 87th, Apt. 4, Overland Park, Kan.
Van Biber, Mrs. James T., 3705 Northern Blvd., Independence 64052
Van Buskirk, Mrs. William C., 1909 W. 67th, Shawnee Mission, Kan. 66208
Van Del, Mrs. Dwight T., 7531 Terrace 64114
Vaughn, Mrs. James W., 5509 W. 86th, Shawnee Mission, Kan. 66207
Vilmer, Mrs. Charles E., 6209 W. 65th, Shawnee Mission, Kan. 66202
Vincent, Mrs. Jack C., 2003 W. 67th Terr., Shawnee Mission, Kan. 66208
Virden, Mrs. Herbert H., 6533 High Dr., Shawnee Mission, Kan. 66208
Voth, Mrs. Harold W., 5413 Neosho, Shawnee Mission, Kan. 66205
Wade, Mrs Frederick E., 413 W. 62nd 64113
Wagner, Mrs. Paul J., 5501 W. 61st Terr., Shawnee Mission, Kan. 66202
Wakefield, Mrs. Franklin H., 8352 Overbrook Rd., Leawood, Kan. 66206
Walker, Mrs. James C., 609 E. 96th 64131
Walker, Mrs. John W., 10336 Mohawk Lane, Shawnee Mission, Kan. 66206
Walker, Mrs. Orville C., Jr., 604 Partridge, Independence 64050
Wall, Mrs. Harry C., 2425 W. 67th, Shawnee Mission, Kan. 66208
Wall, Mrs. Leonard A., 5011 Neosho Ave., Shawnee Mission, Kan. 66205
Ward, Mrs. Robert L., 3608 E. Shady Lane Dr., North 64119
Webster, Mrs. Joseph G., 5532 Locust 64110
Weiford, Mrs. Edward C., 2009 W. 68th, Shawnee Mission, Kan. 66208
Welker, Mrs. Joseph E., 6441 Summit 64113
Wheeler, Mrs. Charles B., 820 W. 57th 64113
Wheeler, Mrs. John H., 5650 Mission Dr., Shawnee Mission, Kan. 66208
White, Mrs. Charles H., 6518 Overhill Rd., Prairie Village, Kan. 66208
White, Mrs. Stoughton F., 6815 Cherokee La., Shawnee Mission, Kan. 66208
White, Mrs. William E., 613 W. 57th Terr. 64113
Whiteman, Mrs. John R., 9729 Cherokee La., Leawood, Kan. 66206
Whitman, Mrs. Doyle C., 6836 Cherokee La., Shawnee Mission, Kan. 66208
Whitmore, Mrs. J. Stewart, 1039 W. 58th St. 64113
Whittaker, Mrs. Charles K., 627 E. 69th 64131
Wien, Mrs. Irving A., 515 E. 78th 64131
Wilhelm, Mrs. Warren F., 3100 W. 67th St., Shawnee Mission, Kan. 66208
Wilkinson, Mrs. E. A., 6810 Linden La., Prairie Village, Kan. 66208
Williams, Mrs. Delon Acree, 1252 Stratford Rd. 64131
Williams, Mrs. Joseph C., Jr., 2209 Arno Rd., Shawnee Mission, Kan. 66202
Williams, Mrs. Roland Dean, 3635 Belleview 64111
Williams, Mrs. Vincent T., 4400 Blue Ridge Blvd. 64133
Willits, Mrs. Lyle G., 1224 W. 62nd 64113
Willoughby, Mrs. James W., 420 N. Ridge, Liberty 64068
Willoughby, Mrs. Jean B., 1019 W. 69th Terr. 64113
Wilson, Mrs. Brickhouse, 700 Ward Pkwy. 64112
Wilson, Mrs. Clifford C., 5531 Neosho La., Shawnee Mission, Kan. 66205
Winer, Mrs. Herbert J., 2103 W. 69th Terr., Shawnee Mission, Kan. 66202
Winston, Mrs. Bernard H., 1006 W. 67th 64113
Wise, Mrs. George W., 4610 Homestead Dr., Prairie Village, Kan. 66208
Wolf, Mrs. Jack, 6125 Morningside Dr. 64113
Woods, Mrs. S. Dwight, 3408 W. 69th, Shawnee Mission, Kan. 66208
Woodward, Mrs W. W., 3610 S. Delaware, Independence 64050
Workman, Mrs. Charles E., 6609 Milhaven Dr., Shawnee Mission, Kan. 66202
Wortmann, Mrs. Robert F., 2819 W. 66th Terr., Shawnee Mission, Kan. 66208
Wright, Mrs. R. Paul, 4902 Belinder Rd., Shawnee Mission, Kan. 66206
Wu, Mrs. William, 4414 Homestead Dr., Prairie Village, Kan. 66208
Wurster, Mrs. W. Joel, 2015 Drury La., Shawnee Mission, Kan. 66208
Youll, Mrs. Donald V., 8329 High Dr., Shawnee Mission, Kan. 66206
Young, Mrs. James E., 9700 Overbrook Rd., Leawood, Kan. 66206
Young, Mrs. Paul R., 7424 Gregory Cir., 64113
Zellermayer, Mrs. Jack, 5801 Lockton La., Shawnee Mission, Kan. 66205
Zoglin, Mrs. Nathan, 333 W. Meyer Blvd. 64113

JASPER COUNTY
(Joplin)

Allen, Mrs. David D., 505 W. 34th 64801
Barnett, Mrs. Norman H., Route 3, Box 181, Tabor Woods 64801
Birsner, Mrs. Frank, 1717 River, Carthage 64836
Black, Mrs. Mervin H., 1001 W. Murphy Blvd. 64801
Burch, Mrs. John E., 1345 Crest Dr., 64801
Chase, Mrs. Ned B., 2931 Indiana 64801
Chesney, Mrs. George W., Jr., 2416 E. 12th 64801
Cohle, Mrs. Richard, 1609 Lilac La., Carthage 64836
Craig, Mrs. Irwin T., 2525 E. 12th 64801
Crawford, Mrs. A. L., 2931 Pearl Ave. 64801
Crispell, Mrs. Lawrence S., 911 Kensington 64801
Curl, Mrs. Howard, 2031½ Pearl 64801
Detar, Mrs. Burleigh, Sr., 410 Jackson 64801
Esther, Mrs. John R., 612 Glenview 64801
Ferguson, Mrs. Lewis H., 604 Plaza Dr. 64801
Ferguson, Mrs. Ralph, 420 E. 33rd 64801
Fritsch, Mrs. Andrew J., 2920 Pearl 64801
Hamilton, Mrs. Eugene H., 2736 E. 15th 64801
Hornback, Mrs. Edward H., 2841 E. 14th 64801
Isbell, Mrs. C. H., 1046 S. Garrison, Carthage 64836
Jeans, Mrs. Virgil, 629 Islington Pl. 65801
Kirschman, Mrs. Robert E., Route 4, Box 359 64801
Koehler, Mrs. John W., 1001 Manitou 64801
McNew, Mrs. W. T., 1204 S. Main 64836
McPike, Mrs. Lloyd H., 3317 Oakridge Dr. 64801
Maddox, Mrs. John D., 1330 Crest Dr. 64801
Myers, Mrs. Roy E., 623 Sergeant 64801
Paddock, Mrs. Charles S., 3910 Range Line 64801
Papp, Mrs. Sandor D., 3343 Pearl 64801
Patterson, Mrs. Donald R., Route 1, Box 481 64801
Patterson, Mrs. Grover S., 1717 River, Carthage 64836
Pence, Mrs. F. Wendell, Route 2, Box 309, Carthage 64836
Post, Mrs. Winfred L., 2630 E. 15th 64801
Powell, Mrs. Robert G., 818 Galena Ave., Galena, Kan.
Schmidt, Mrs. Herbert J., 820 North Moffet 64801
Schoeberl, Mrs. C. B., 3111 E. 4th 64801
Schulte, Mrs. Gregory A., 2515 E. 12th 64801
Scorse, Mrs. S. W., 619 W. 2nd 64801
Smith, Mrs. Roland T., 426 N. Pearl 64801
Smith, Mrs. Russell W., 315 Euclid, Carthage 64836
Upsher, Mrs. Albert E., 69 Canterbury Lane 64801
Walker, Mrs. Paul, 1022 N. Sergeant 64801
Wieman, Mrs. Harry K., 536 N. Wall 64801
Wood, Mrs. George H., 530 E. Highland, Carthage 64836
Wooldridge, Mrs. Bart F., 1435 Crest Dr. 64801
Young, Mrs. C. C., 2518 E. 13th 64801

JEFFERSON COUNTY

Allbee, Mrs. Roger, Crystal City 63019
Bolgar, Mrs. Bertalan, Festus 63028
Deles, Mrs. Vicente, Crystal City 63019
Donnell, Mrs. Harold, DeSoto 63020
Donnell, Mrs. Hart, Crystal City 63019
Donnell, Mrs. Thomas, DeSoto 63020
Fallet, Mrs. Charles, DeSoto 63020
Ibaviosa, Mrs. Alfred, Festus 63028
Judge, Mrs. Thomas, Crystal City 63019
Kozal, Mrs. Frank, Crystal City 63019
Mayfield, Mrs. Logan, Crystal City 63019
McKinstry, Mrs. Karl, DeSoto 63020
Rutledge, Mrs. John, Crystal City 63019
Senn, Mrs. Emmett, Herculaneum 63048

JOHNSON COUNTY
(Warrensburg 64093)

Cooper, Mrs. R. Lee, 411 W. Gay
Damron, Mrs. Oscar H., 612 N. Maguire
Folkner, Mrs. Albert L., 316 Hillcrest Dr.
Frein, Mrs. D. E., Leeton 64761
Gonzalez, Mrs. Mario Garza, 508 Jefferson
Harkness, Mrs. Harry H., Burkarth Rd.
Johnson, Mrs. Charles S., 114 E. Market
Jones, Mrs. Keith D., 910 E. Clark
Lederer, Mrs. Charles M., 617 Clark
Maxson, Mrs. R. Reed, Arilen Acres

LAFAYETTE-RAY COUNTIES

Best, Mrs. Robert, Higginsville 64037
Boydston, Mrs. Wayne, Odessa 64076
Brady, Mrs. Hugh, Concordia 64020
Brasher, Mrs. Ben H., Lexington 64067
Cook, Mrs. Edna, Richmond 64085
Cook, Mrs. Thos. B., Richmond 64085
Cope, Mrs. Joseph S., Lexington 64067
Crozier, Mrs. Frank, Sr., 323 S. Institute, Richmond 64085
Devault, Mrs. George, Richmond 64085
Fulkerson, Mrs. W. E., Higginsville 64037
Huber, Mrs. Herbert, 205 E. Royle, Richmond 64085
Johnston, Mrs. Esther, Concordia 64020
Kelling, Mrs. Douglas, Waverly 64096
Kelling, Mrs. Jordan, Waverly 64096
Koppenbrink, Mrs. W. E., Jr., Higginsville 64037
Koppenbrink, Mrs. W. E., Sr., Higginsville 64037
LaHue, Mrs. William, Lexington 64067
Liston, Mrs. Odis, Oak Grove 64075
Martin, Mrs. W. E., Odessa 64076
McFadden, Mrs. Gene, Waverly 64096
Riley, Mrs. Charles, 314 N. Thornton, Richmond 64085
Ward, Mrs. Joe W., Lexington 64067
Williams, Mrs. John, Oak Grove 64075

LINCOLN-ST. CHARLES COUNTIES
(St. Charles 63301)

Barnette, Mrs. Eugene, 2626 W. Adams
Berry, Mrs. Paul, 160 Harris St., Troy 63379
Canty, Mrs. Eugene, 1824 Sibley
Clay, Mrs. Calvin, 808 Oak
Clever, Mrs. Henry, 1245 Cunningham
Commerford, Mrs. John, 302 S. Duchesne
Cottey, Mrs. John, 2807 Mayer Dr.
Creech, Mrs. Joseph, 415 7th, Troy 63379
Crider, Mrs. Russell, 1875 S. River Rd.
Damron, Mrs. Edward, 602 N. 5th, Elsberry 63343
Duling, Mrs. Gerald, 5 Shawnee Dr.
DuMontier, Mrs. R. J., O'Fallon 63366
Felder, Mrs. James, 3008 W. Adams
Fleming, Mrs. Robert, 700 Hawthorn
Goldkamp, Mrs. John, 2620 Park
Gore, Mrs. Glenn, 18 Janis Ann Dr., St. Peters 63376
Gossow, Mrs. Geret, 3029 Flamingo Dr.
Hammes, Mrs. Roman, 505 Concordia
Hanlon, Mrs. Russell, 2616 Brookridge La.
Hetlage, Mrs. Louis, 5 Sunset Dr., Troy 63379

Hurd, Mrs. Ronald, 115 S. Cardinal Lane
Keller, Mrs. Robert, 712 Parr, Wentzville 63385
Kister, Mrs. George, 236 Thomas
Linsenmeyer, Mrs. Charles, 445 Nantuckett
Muenster, Mrs. Vincent, 3 Briarwood
Perna, Mrs. Vincent, 14 Rio Vista
Poggemeier, Mrs. William, 140 Prairie Haute
Roach, Mrs. Edward, 610 Yale
Roter, Mrs. Alex, 2224 W. Adams
Rother, Mrs. Paul, 7 Elmwood Park
Schneider, Mrs. Thomas, 3208 W. Adams
Schneider, Mrs. Vincent, 2207 W. Adams
Scokel, Mrs. Paul, 3000 Elmhurst
Shuetz, Mrs. Alfred, 904 Indian Hills Dr.
Slotkin, Mrs. Robert, 208 Oriole Dr.
Smoller, Mrs. Martin, 14 Colonial Hills Parkway, St. Louis 63141
Thiele, Mrs. Otto, 3100 W. Adams St.
Towers, Mrs. Orville W., Elm Point Road
Westerfeld, Mrs. Roy, 32 Ayshire, Route 4
Wipfler, Mrs. Earl, 143 N. Cardinal
Yaeger, Mrs. Gerald, 1916 Sibley

MILLER-MONITEAU-MORGAN

Buehler, Mrs. Carl T., Jr., Eldon 65026
Burke, Mrs. J. P., California 65018
Fulks, Mrs. Richard B., California 65018
Gallagher, Mrs. Lionel M., California 65018
Gunn, Mrs. Jack, Versailles 65084
Latham, Mrs. Kenyon, 200 S. High, California 65018
Lyle, Mrs. Ray, Versailles 65084
Shelton, Mrs. E. O., Eldon 65026
Washburn, Mrs. J. L., Versailles 65084

MINERAL AREA
(St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve Counties)

Appleberry, Mrs. Charles H., 706 W. Main, Flat River 63601
Appleberry, Mrs. Reuben, 815 W. Columbia, Farmington 63640
Brennan, Mrs. John A., 2 Hoctor Dr., Farmington 63640
Bull, Mrs. Ben, 109 S. Knob, Ironton 63650
Burcham, Mrs. Tom R., Hwy. M, Farmington 63640
Carleton, Mrs. Charles E., 501 Center, Farmington 63640
Chastain, Mrs. C. W., Route 3, Farmington 63640
Crouch, Mrs. F. Richard, 714 Ste. Genevieve, Farmington 63640
Dennis, Mrs. Paul, 709 Tyler, Flat River 63601
Evans, Mrs. Albert, 113 Benham, Bonne Terre 63628
Ford, Mrs. William, 34 Tanglewood, Farmington 63640
Foster, Mrs. Jack L., Desloge 63601
Grossman, Mrs. Marvin, 500 Marshall, Fredericktown 63645
Hardy, Mrs. Stanton L., 807 N. Main, Desloge 63601
Huckstep, Mrs. Robert A., Route 1, Farmington 63640
Hunt, Mrs. John W., Jr., State Hospital No. 4, Farmington, 63640
Karraker, Mrs. Alvan G., 507 North, Farmington 63640
Mullen, Mrs. Jack, Route 2, Bonne Terre 63628
Oliver, Mrs. George A., 117 Oak Hill Downs, Farmington 63640
Osborn, Mrs. R. W., III, State Hospital Grounds, Farmington 63640
Taylor, Mrs. Van W., 54 Church St., Bonne Terre 63628
Turner, Mrs. Kirby, Potosi 63664
Watkins, Mrs. George Linn, 812 Dewey, Farmington 63640
Watkins, Mrs. George L., 813 Dewey, Farmington 63640

PERRY-STE. GENEVIEVE

Carron, Mrs. Oscar A., 308 N. Waters, Perryville 63775
DeGenova, Mrs. Gerald H., 585 Cedar Lane, Ste. Genevieve 63670
Fairchild, Mrs. James F., Route 2, Perryville 63775
Feltz, Mrs. Lawrence W., 20 S. Feltz, Perryville 63775
Fischer, Mrs. Theodore, Altenburg 63732
Lutkewitte, Mrs. Joseph F., 33 St. Jude Dr., Ste. Genevieve 63670
McDermott, Mrs. Alfred E., 619 Bruce, Perryville 63775
Utterman, Mrs. Wm. F., 614 S. Main, Perryville 63775

PETTIS COUNTY
(Sedalia 65301)

Boger, Mrs. John W., 2803 Skyline Dr.
Brady, Mrs. Charles H., 720 W. 5th St.
Braverman, Mrs. Elliot M., 2510 Wing Ave.
Brazos, Mrs. John, Route 2
Campbell, Mrs. Albert J., 1500 W. 16th
Campbell, Mrs. Albert J., Sr., 1714 W. 16th
Edwards, Mrs. David R., 1619 S. Moniteau
Eldenburg, Mrs. Donald, Route 2
Fisher, Mrs. Stanley D., 2200 S. Kentucky
Gonser, Mrs. Karl B., 1619 W. Broadway
Hite, Mrs. H. A., 416 S. Grand
Hopkins, Mrs. Thomas J., 1506 W. Broadway
Lamy, Mrs. John E., 509 W. Broadway
Long, Mrs. Frank B., 723 W. 7th
Proctor, Mrs. Donald C., 717 W. 6th
Roberts, Mrs. Paul A., 101 E. Marshall, Sweet Springs 65351
Siegel, Mrs. Carl D., 11117 Glen Arbor Terr., Kansas City 64114
Stauffacher, Mrs. Gordon C., 1313 W. Broadway
Stewart, Mrs. Robert H., 201 Driftwood Dr.
Trader, Miss Frances W., 219 W. 7th St.
Van Dyke, Mrs. Elmer, 2205 W. 5th St.
Walters, Mrs. A. L., 1000 W. 7th St.
Worley, Mrs. C. A., 102 W. Ray, Sweet Springs 65351

ST. LOUIS CITY
(St. Louis)

Abel, Mrs. Oliver, III, 409 Oakley Dr. 63105
Allen, Mrs. Melvin A., 14 Lindworth Dr. 63124
Arneson, Mrs. Axel N., 6314 Waterman 63130
Babka, Mrs. Joseph J., 6400 Bancroft 63109
Backer, Mrs. Matt H., Jr., 101 Flamingo Dr. 63123
Balazs, Mrs. Karl J., 165 S.E. Beeney Rd., Port Charlotte, Fla. 33905
Bandle, Mrs. Donald F., 3801 January 63109
Barden, Mrs. Frank W., 41 Beaver Dr. 63141
Bartlett, Mrs. Robert W., 6459 Wydown 63105
Bartlett, Mrs. Willard, Jr., 6345 Ellenwood 63105
Bartlett, Mrs. Willard, Sr., 53 Westmoreland Pl. 63108
Bartnick, Mrs. Mitchell L., 6476 Eichelberger 63109
Bassett, Mrs. Robert B., 2 Beverly Pl. 63112
Becke, Mrs. William G., 18 Lorenzo La. 63124
Becker, Mrs. Stanley C., 11959 Emerald Green Dr. 63141
Bell, Mrs. Robert M., 35 Glen Rd. 63119
Benjamin, Mrs. Durand, 7340 Navarre Circle 63123
Bilsky, Mrs. Nathan, 2 Somerset Downs 63124
Bindbeutel, Mrs. Arthur H., 3953 Holly Hills 63116
Bircher, Mrs. John L., 3932 Federer Pl. 63116
Boemer, Mrs. Lilburn C., 49 Clermont La. 63124
Bohrer, Mrs. Harry C., 4112 Flora Pl. 63110
Boveri, Mrs. Joseph C., 8201 Fendale Dr. 63123
Boyd, Mrs. Arthur M., 6556 Delor Ave. 63109
Bradley, Mrs. Frank R., 7404 Oxford Dr. 63105
Bradley, Mrs. John Martin, 275 N. Union Blvd. 63108
Brennan, Mrs. George A., 10546 Hanford 63128
Brennan, Mrs. Robert Alexis, 6030 Highfield Rd. 63109
Briemaier, Mrs. Charles R., 1535 N. Woodlawn 63122
Brodeur, Mrs. Armand E., 141 Horseshoe Dr. 63122
Broun, Mrs. Goronwy Owen, Jr., 6359 Waterman 63130
Brown, Mrs. Clyde O., 7419 York Dr. 63105
Brown, Mrs. E. Eugene, 379 N. Taylor 63108
Brown, Mrs. James Barrett, 710 S. Hanley Rd. 63105
Brown, Mrs. Seymour, 2 Ricardo La. 63124
Bruns, Mrs. Kenneth, 6318 Washington 63130
Budd, Mrs. John J., Jr., 501 Overhill Dr. 63130
Burroughs, Mrs. W. H., 7327 Pershing 63130
Burst, Mrs. Donald O., 61 Trent Dr. 63124
Byrne, Mrs. John Edward, 6465 Westway 63109
Cameron, Mrs. Solon, 43 Washington Terr. 63112
Cannon, Mrs. Edward M., 20 Braircliff 63124
Cannon, Mrs. William J., 43 Clermont La. 63124
Cappel, Mrs. Powell B., 27 Old Westbury La. 63119
Carney, Mrs. Joseph E., 6625 Pernod Ave. 63139
Carroll, Mrs. George A., 7831 Delmar Blvd. 63130
Cary, Mrs. John M., 815 Brookside 63122
Chamness, Mrs. James T., 1 St. Andrews Dr. 63124
Cherre, Mrs. Charles J., 10 Ridgetop 63117
Ciapciak, Mrs. Stanley J., 30 Log Cabin Dr. 63124
Clark, Mrs. Clarence L., 705 Questover 63141
Collodi, Mrs. George A., 20 Southcote 63144
Conrad, Mrs. Adolph H., Jr., 9 Dromara Rd. 63124
Cook, Mrs. Ralph L., 44 Nolan Dr. 63122
Cooper, Mrs. Thomas J., 30 Beverly Dr. 63132
Correnti, Mrs. Nicholas A., 6617 Itaska 63109
Costa, Mrs. Dominic V., 10 Devondale La. 63131
Crossman, Mrs. Robert W., 1509 Holly Dr. 63119
Daake, Mrs. John W., 48 Portland Pl. 63108
Dalton, Mrs. Arthur R., 13133 Conway & Mason Rd. 63141
Danforth, Mrs. William H., 7 Black Creek Lane 63124
Danis, Mrs. Peter G., 16 Villa Coublay 63131
Dash, Mrs. Udaya N., 1 Winding Brook La. 63124
Dewald, Mrs. Paul A., 60 Convay Lane 63124
Diehr, Mrs. Alvin H., 29 Rio Vista 63124
Diemer, Mrs. Peter A., 2105 Briargate 63141
DiLeo, Mrs. Senatro W., 34 Ridgetop 63117
Donahoe, Mrs. James L., 7336 Princeton 63130
Doyle, Mrs. Charles R., 28 Kingsbury Pl. 63112
Drake, Mrs. Truman G., 6344 Alexander 63105
Drews, Mrs. Robert C., 7361 Cornell Ave. 63130
Dreyer, Mrs. Carl Joseph, 45 Glen Rd. 63119
Dripps, Mrs. Roy C., 5210 Jamieson 63109
Eades, Mrs. Dee W., 6 Kingsbury Pl. 63112
Eagleton, Mrs. Mark D., 22 Carrswold 63105
Edwards, Mrs. Joseph C., 610 W. Polo Dr. 63105
Egan, Mrs. Robert C., 556 Oak Haven Lane 63141
Eigel, Mrs. Edwin G., 3654 Flora Pl. 63110
Ernst, Mrs. Edwin C., 2 Schultz Rd. 63122
Farris, Mrs. Larry E., 2111 Vitadale Ct. 63136
Feller, Mrs. Harold H., 5834 Bermuda Rd. 63121
Finn, Mrs. Murray Eugene, 47 Portland Pl. 63108
Fish, Mrs. Virgil D., 2500 Town & Country La. 63131
Fitzgerald, Mrs. Leo P., 7219 Cornell Ave. 63130
Fitzgerald, Mrs. William T., 6425 Rhodes 63109
Flotte, Mrs. Bernard H., 6 Lila Lane 63133
Flotte, Mrs. Sylvester, 9113 Glen Garden 63136
Ford, Mrs. Lee T., Jr., 45 Green Acres 63137
Franklin, Mrs. Max S., 7536 Buckingham Dr. 63105
Fries, Mrs. Armand D., 11 W. Geyer La. 63131
Fries, Mrs. John, 106 Frontenac Forest 63131

Gagliardo, Mrs. Joseph, 70 E. Ladue Estates 63141
Gantner, Mrs. George E., Jr., 233 Woodbourne Dr. 63105
Glaser, Mrs. Martin J., 3550 Hawthorne Blvd. 63104
Glick, Mrs. Harry N., Mason Rd., Route 13 63122
Goldman, Mrs. Melvin L., 8650 Barby La. 63124
Gomez, Mrs. Cesar A., Jr., 18 Havenview Dr. 63141
Grebel, Mrs. Blement B., 58 Grantwood Lane 63123
Green, Mrs. William R., 5801-B Deroret, Fort Knox, Ky. 40121
Greiner, Mrs. Theodore, 7507 Washington 63130
Gresick, Mrs. Robert J., 11 Coach-N-Four La. 63131
Grogan, Mrs. Frank M., 4166 Flora Pl. 63110
Gunn, Mrs. Walter T., 6742 ltaska 63109
Haddock, Mrs. James N., 111 Firwood Dr. 63119
Haeberle, Mrs. Frederick S., 3206 Hebert St. 63107
Hagebusch, Mrs. Omar E., 16 Covington La. 63132
Hall, Mrs. Preston C., 4243 Lafayette 63110
Hall, Mrs. Robert A., 43 Washington Terr. 63112
Hammond, Mrs. John J., 7245 Maryland 63130
Harkins, Mrs. William M., 7 Kingsbury Pl. 63112
Harris, Mrs. A. Basil, 5354 Waterman 63112
Harris, Mrs. Solon P., 7138 Maryland 63130
Harrison, Mrs. Lee B., 44 Ridgemoor Dr. 63105
Hartnett, Mrs. Leo B., 9833 Waterbury 63124
Hassett, Mrs. Henry A., 4440 Lindell 63108
Hawk, Mrs. Bray O., 3534 Hawthorne Blvd. 63104
Hawkins, Mrs. George L., Jr., 504 Oakwood 63119
Haynes, Mrs. Pugh, 8006 Gannon 63130
Heinbecker, Mrs. Peter, 4643 Pershing 63108
Henderlite, Mrs. John W., 3 S. Tealbrook Dr. 63141
Henschel, Mrs. Eugene V., 55 Broadview Dr. 63105
Hertel, Mrs. Ronald C., 122 Frontenac 63131
Hicks, Mrs. Robert S., 11155 Conway Rd. Forest 63131
Hilbert, Mrs. Paul H., 5701 Pernod Ave. 63139
Hildreth, Mrs. H. Rommel, 711 Middle Polo Dr. 63105
Hodges, Mrs. F. J., III, 139 Valley Rd. 63119
Hogan, Mrs. Patrick C., 8935 Westhaven Ct. 63126
Hollo, Mrs. Vencel W., 5925 Lindell 63112
Hotz, Mrs. John W., 141 N. Gay 63105
Hummel, Mrs. William C., 13354 Thornhill Dr. 63131
Hutchinson, Mrs. William B., 2233 Cleek St. 63131
Jensen, Mrs. Joshua E., 3 Brazillian Ct. 63124
Jones, Mrs. Otey S., 2010 Longfellow Blvd. 63104
Jones, Mrs. Vincent L., 123 N. Forsyth 63105
Kamakas, Mrs. Nicholas C., 7223 Pasadena Blvd. 63121
Kaminsky, Mrs. Watson W., 5878 Delor 63109
Karandjeff, Mrs. A. D., 8016 Walinca 63105
Karl, Mrs. Michael M., 14 Thorndell 63117
Kelley, Mrs. Robert W., 5371 Waterman Ave. 63112
Kendig, Mrs. John H., 841 Rolfe Dr. 63122
King, Mrs. Samuel J., 5000 S. Broadway 63111
Klein, Mrs. Harry A., 2 Sunswept Dr. 63141
Klein, Mrs. Saul J., 7507 Parkdale 63105
Klippel, Mrs. Bernhardt W., 52 Fair Oaks 63124
Kloecker, Mrs. Richard J., 1022 Hampton Park 63117
Kluegel, Mrs. William A., 2845 Gravois Ave. 63118
Klym, Mrs. Nicholas, 1505 Doris Dr. 63138
Kneal, Mrs. Ellsworth, 725 S. Skinner 63105
Knight, Mrs. Franklin P., 11465 Fairlane Ct. 63136
Knight, Mrs. William A., Jr., 12 Braircliff 63124
Koetter, Mrs. A. F., 6208 Rosebury Dr. 63105
Koon, Mrs. Bernard T., 2623 Gurney Ct. 63110
Kountz, Mrs. William B., 2619 Gurney Ct. 63110
Koutsoumpas, Mrs. William, 3024 Hawthorne Blvd. 63104
Kowert, Mrs. Edward H., 330 Planthurst Dr. 63119
Kramolowsky, Mrs. Helmuth H., 546 Sheffield Ave. 63119
Krojanker, Mrs. Rolf J., 1060 Purdue 63130
Kuhlman, Mrs. Robert E., 7416 Wellington Way 63105
Ladd, Mrs, Charles B., 41 Fox Meadows 63127
Langsdorf, Mrs. Herbert S., 3681 Alberta Ave. 63116
Laux, Mrs. France A., 287 Ridge Trail Dr., Chesterfield 63017
Lawton, Mrs. Thomas P., 410 Newstead Ave. N. 63108
Leavy, Mrs. Charles A., 9058 Monmouth Dr. 63117
Lembeck, Mrs. Joseph A., 4103 Flora Pl. 63110
Lewis, Mrs. J. Eugene, Jr., 7129 Kingsbury Ave. 63130
Lischer, Mrs. Carl E., 1 Bridle Creek Rd. 63124
Lohr, Mrs. Curtis H., 300 S. Grand 63103
Lottes, Mrs. J. Otto, 1028 Winwood Dr. 63124
Lugo, Mrs. Samuel, 9890 Wild Deer 63124
Macdonald, Mrs. John W., 4525 Lindell Blvd. 63108
Macdonald, Mrs. William D., 63 Briarcliff 63124
Machek, Mrs. Otaker, 16 Carswold 63105
Macnish, Mrs. James M., 229 Bompart 63119
Maher, Mrs. Thomas F., Jr., 20 Willow Oak La. 63122
Malles, Mrs. A. Conrad, 69 Wood Oaks Trail 63124
Martin, Mrs. Raymond T., 3468 Longfellow Blvd. 63104
Mathae, Mrs. George H., 3167 S. Grand Blvd. 63118
McMahon, Mrs. Alphonse, 5 Covington Meadow 63132
Mehan, Mrs. Donald J., 6517 Walsh 63109
Meirink, Mrs. Thomas P., 24 Van Mark Way 63144
Mendonsa, Mrs. Lawrence E., 138 Ridgecrest Dr., Chesterfield 63017
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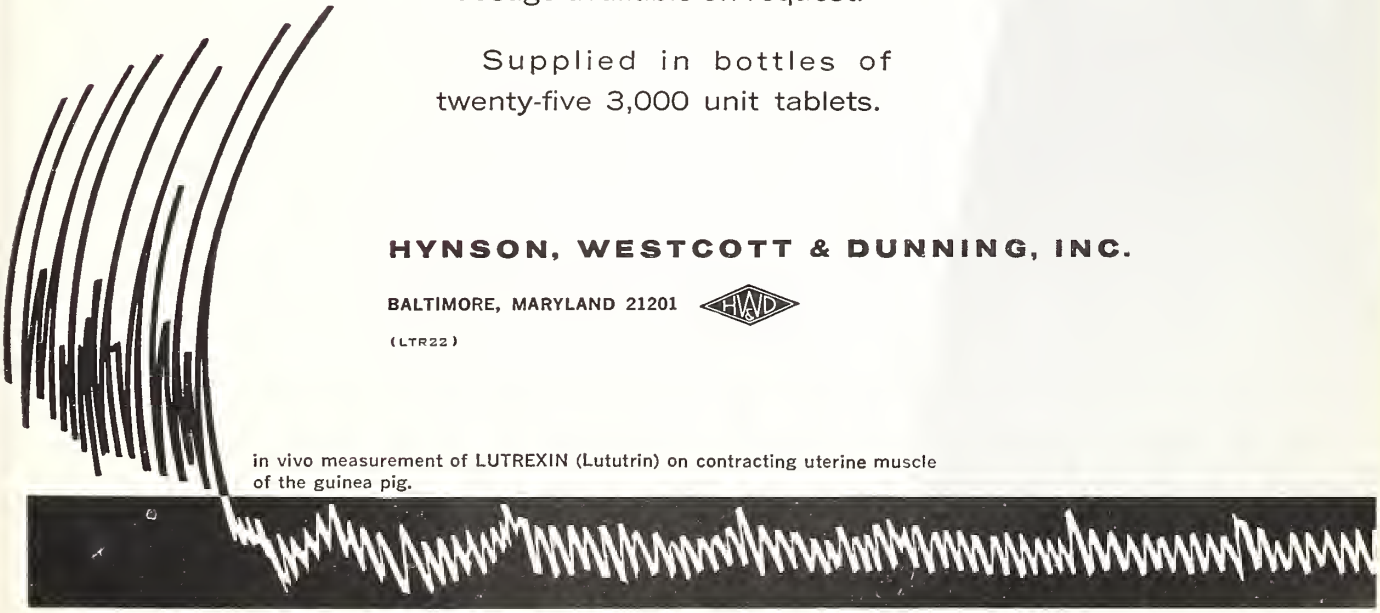

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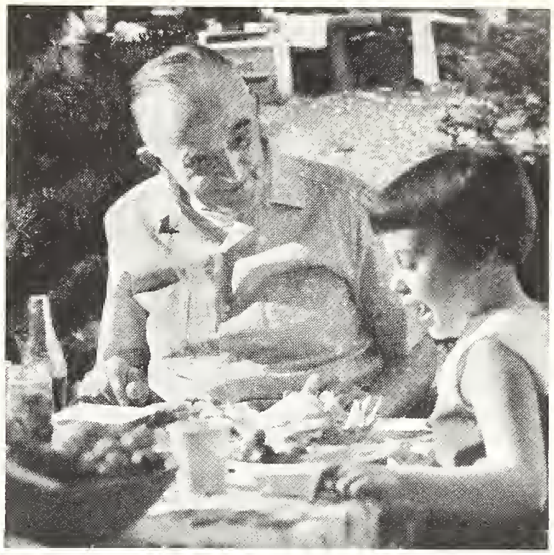

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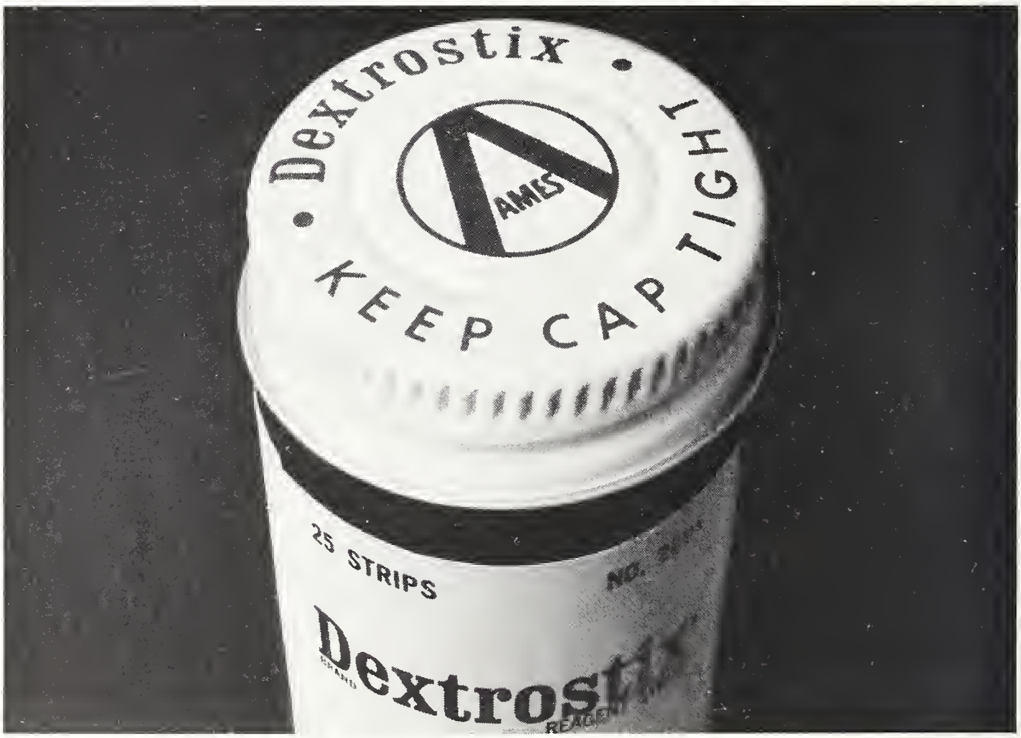

*Based on Statistical Report, U.S. Dept. Commerce, ed. 86, and Fisher, G. F., and Vavra, H. M.: Pub. Health Rep. 80:961 (Nov.) 1965.

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IN THE LEGISLATURE

Missouri is preparing to initiate a formal Title XIX or "medicaid" program as the result of action taken by the recently adjourned 74th General Assembly. The Assembly, Missouri's state legislature, completed work on the Title XIX bills in the final week of its six month session. As approved, the program will provide inpatient hospital services, outpatient hospital services, laboratory and X-ray services, nursing home services, physician services, dental care and prescribed drugs and medicines for the five basic categories of welfare recipients in Missouri. The provisions relating to these "needy" persons had to be implemented before 1970 to assure continuance of federal matching funds. Additional provisions relating to the "near-needy" or "medically indigent" will have to be put into effect prior to 1975 to comply with federal law.

The Missouri State Medical Association started working with the State Division of Welfare last August in preparing and promoting the Title XIX legislation. The Association maintained close liaison with State Senator William J. Cason of Clinton who was the chief sponsor of the three Title XIX bills, and arranged for supporting witnesses to appear at the legislative hearings both in the Senate and the House.

The entire effort to enact a Title XIX program was placed in jeopardy in the closing days of the legislative session when, in a surprise move, an amendment providing for the addition of "chiropractic services" was tacked onto the main Title XIX bill. The action occurred on the floor of the House without benefit of prior committee consideration, study of cost factors or investigation of legal and administrative ramifications. Only at the last minute did the Representatives relent and agree to drop the chiropractic amendment. The Title XIX program was finally enacted without chiropractors.

Bill O'Malley

"Whatdaya mean? Come back in two weeks IF I live that long!"

Missouri chiropractors also made intensive efforts in the 74th General Assembly to win approval of three other pieces of legislation. One was their perennial proposal to expand their practice rights. The other two were attempts to open Missouri's Workmen's Compensation program to chiropractors. All three bills were defeated or shelved with the opposition of the Medical Association and the Missouri Association of Osteopathic Physicians and Surgeons.

The Assembly took the first step toward modernizing and revamping the State Division of Health. That came in another bill which cleared the legislature in the final week of the session. When signed by the Governor, it will authorize creation of a seven-member State Board of Health to be appointed by the Governor with the advice and consent of the Senate. The Board will be empowered to appoint the Director of Health and to formulate policies of the Division.

A companion bill to increase the salary of the Director of Health to a realistic figure was in line for final passage when the Assembly's statutory term expired. A similar bill to increase the salary of the Director of the Division of Mental Diseases also was lost when the clock ran out.

The 1967 Missouri lawmakers considered a record number of bills during their six months of service. There were 1,287 bills introduced, 877 of them in the House and 410 in the Senate. At session's end, 258 bills had been enacted into law, 129 from each chamber.

At least 45 of the legislative proposals related to medical or health care matters. The State Medical Association took active interest to varying degrees in 32 bills, and Association representatives appeared as witnesses on 27 different occasions.

One bill which the Medical Association spent considerable time and effort on, but which failed to clear the Senate before the session came to an end, was a bill which would have established a plan for licensing physical therapists. As originally introduced, the measure provided for creation of a new licensing board, independent of any existing agency. Following a series of conferences between the Medical Association, the State Osteopathic Association and the Board of Registration for the Healing Arts, legal counsel was authorized to draft a substitute plan. This so-called "umbrella" plan provided the same certifying and licensing procedures as the original bill, but made the Board of Registration for the Healing Arts the official licensing agency. The physical therapists would have had their own practice committee, appointed by the Governor, which would have been charged with considering and making decisions on any matter relating to the practice of physical therapy and the examination and licensing of therapists. The Committee actions would have been subject to final approval by the Board of Healing Arts. The chairman of the therapists' committee would have sat as a full voting member of the Board when it considered any matter relating to physical therapy or therapists.

Medical profession spokesmen pointed out to legislators that this plan could be applied to any of the paramedical or ancillary practice groups. Several groups have been sponsoring certification or licensure legislation in recent years, but the General Assembly has refused to approve any of the proposals. There was legislative concern over establishing a series of new independent administrative boards, possibly totaling a dozen or more, each with its own office, executive staff, legal counsel, investigative facilities and other expenses. The "umbrella" plan would assure orderly and economical development by utilizing the existing facilities of the Board of Healing Arts.

The State Medical Association again supported a bill to establish a statewide medicolegal examiner system and arranged for the appearance of witnesses before legislative committees. The bill passed the House but died in the Senate Judiciary Committee. The author and primary sponsor, Representatives Ronald Reed, Jr., of St. Joseph, has indicated that he will try again in the next Assembly.

The Medical Association assisted in drafting and promoting a measure to bring LSD and other hallucinogenic drugs under Missouri's narcotic control laws. The bill has been signed into law.

Another bill which became law with Medical Association support was one to permit patients in state mental institutions to be transferred to their family homes with the state paying for custodial care.

A major medical proposal which failed to pass the 1967 legislature due to lack of time was one to establish state standards and licensing or registration for clinical laboratories. Representatives of the Medical Association and other interested parties are expected to continue their work on drafting suitable legislation which can be introduced in the next session. At present, it appears that there will be two separate bills, one to regulate laboratories and the other to certify or license laboratory personnel under the "umbrella" plan.

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

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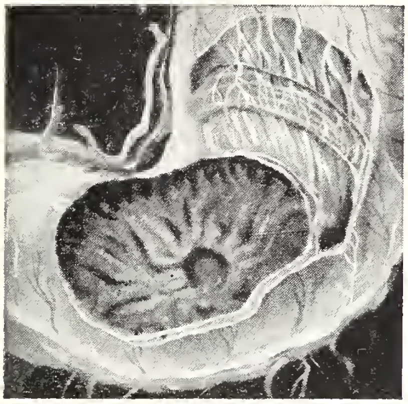

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Delegates Report

AMA Challenges M.D.'s on Rising Health Care Costs

Health care costs, medical manpower, therapeutic abortion, medicine and osteopathy and the members' disability insurance program were among the major subjects acted upon by the House of Delegates at the American Medical Association's 116th Annual Convention held on June 18-22 in Atlantic City. MSMA was officially represented by AMA Delegates Stanley S. Peterson, J. Loren Washburn, Arthur W. Neilson and Richard H. Kiene: Alternate Delegates James C. Sisk, Thompson E. Potter, Robert Kelley and Hugh E. Stephenson, Jr.; President Hector W. Benoit, Jr.; President-Elect David N. Kerr; and Council Chairman Doyle C. McCraw. Doctor Washburn served on Reference Committee "E."

A number of other MSMA officers and members were among the 11,955 physicians who registered for the meeting. Oscar P. Hampton, Jr. of St. Louis again served as official Delegate for the Section on Military Medicine. He was appointed as a member of Reference Committee "F." Wendell G. Scott of St. Louis served as official Delegate for the Section on Radiology.

Two MSMA members were honored during the 1967 session. Vernon E. Wilson, Director of Health Affairs at the University of Missouri, was elected to the AMA Council on Medical Education; and Congressman Durwood G. Hall, Springfield, was installed as President of the Conference of Presidents.

In considering rising health care costs, the House of Delegates gave physicians a clear challenge to assist their patients in this important area of health care by helping them "obtain high quality care with a minimum expenditure of dollars." In a statement adopted by the House, physicians as a group also were asked "to concern themselves with the overall design of the nation's health care system and the basic problems limiting its effectiveness. . . ."

The House stressed the need to speed the education and increase the supply of physicians as it accepted a report of the Board of Trustees. The report stated that an immediate and unprecedented increase in physician output is needed if the deficiencies in physician manpower are not to assume even more alarming proportions in the future.

Prompt initiation of negotiations toward converting schools of osteopathy to schools of medicine was called for by the House. The statement reaffirmed AMA policy that voluntary professional association between M.D.'s and D.O.'s is proper, if the D.O. bases his practice on modern scientific principles.

Consideration of the subject of therapeutic abortion, which has generated interest among state legislatures and the public as well as in the profession, prompted the House of Delegates to revise a 96-year-old AMA policy statement. The House made it clear, however, that the AMA opposes induced abortion except in certain circumstances. The House noted that the updated policy is in keeping with modern scientific knowledge, contains necessary safeguards and permits the physician to exercise his personal conscience and medical judgment in the best interest of his patient.

The issue of the AMA Members Group Disability Insurance Program was re-referred to the Board of Trustees with the recommendation that the Board continue the program with the same premium-benefit structure. The House declared that the insurance carrier should guarantee benefits and premiums for a period of at least five years in order to assure stability of the program. Certain specific guidelines were recommended.

Of the 123 resolutions introduced by state medical associations, six were sponsored by MSMA. House action on the individual Missouri resolutions is as follows:

Resolution # 28 concerning Policy Regarding Government Medical Care Program—The Reference Committee recommended a substitute resolution embodying the basic principles of the original. The substitute retained the intent and basis of the original and was adopted.

Resolution # 29 concerning Collection of Medicare Fees by Institutions—Adopted by the House with the original intent intact. A change was made in the language of the resolution as stated.

Resolution # 30 concerning AMA Study of Social, Political and Economic Factors Affecting Medical Care—Referred to the Board of Trustees and the new AMA Committee on Planning and Development for consideration.

Resolution # 31 concerning Signing of Certification and Recertification Forms—Embodied in a resolution of broader scope, and the latter was adopted.

Resolution # 32 concerning Proposed Out-Patient and Diagnostic Specialty Benefits (Part C of Medicare)—Adopted as introduced.

Resolution # 33 concerning Insurance Payment for Certain Diagnostic Procedures and Minor Surgery when Performed in Office and Hospital Out-Patient Departments Rather than Requiring Hospitalization—Referred to the Board of Trustees and the Council of Medical Service for further consideration.

In his installation address before the Conference of Presidents, Dr. Hall chose as his topic, "Medicine's Not So Silent Partner" and said that "it's time to blow the whistle at the *fouls* being committed by Medicine's new 'partner,' or 'intervener,' the federal government."

He concluded by saying, "There are times when the American public can hardly escape the conclusion that the Administration in power is deliberately out to destroy the good name of the American physician and to make him a subject of ridicule and contempt. For those who in one pious breath attack 'McCartheyism' and in the other breath use such broad brush methods of innuendo, there is a double standard of immense contradictions. I am still convinced that cooperation is the best road to travel, but cooperation which must be in its best and truest and fullest meaning. It must work both ways, and those representing *quality* care of patients must have the guts to stand for belief and principle."

Dr. Dwight L. Wilbur of San Francisco, who has been a member of the AMA's Board of Trustees since 1963 and served 17 years as an AMA delegate from California, was unanimously chosen President-Elect. He will succeed Dr. Milford O. Rouse of Dallas, Texas, who took office during the Atlantic City convention.

Further details of the 116th Annual Convention may be found in *The Journal of the American Medical Association* and in the June 26 and July 3 issue of *The AMA News.*

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A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

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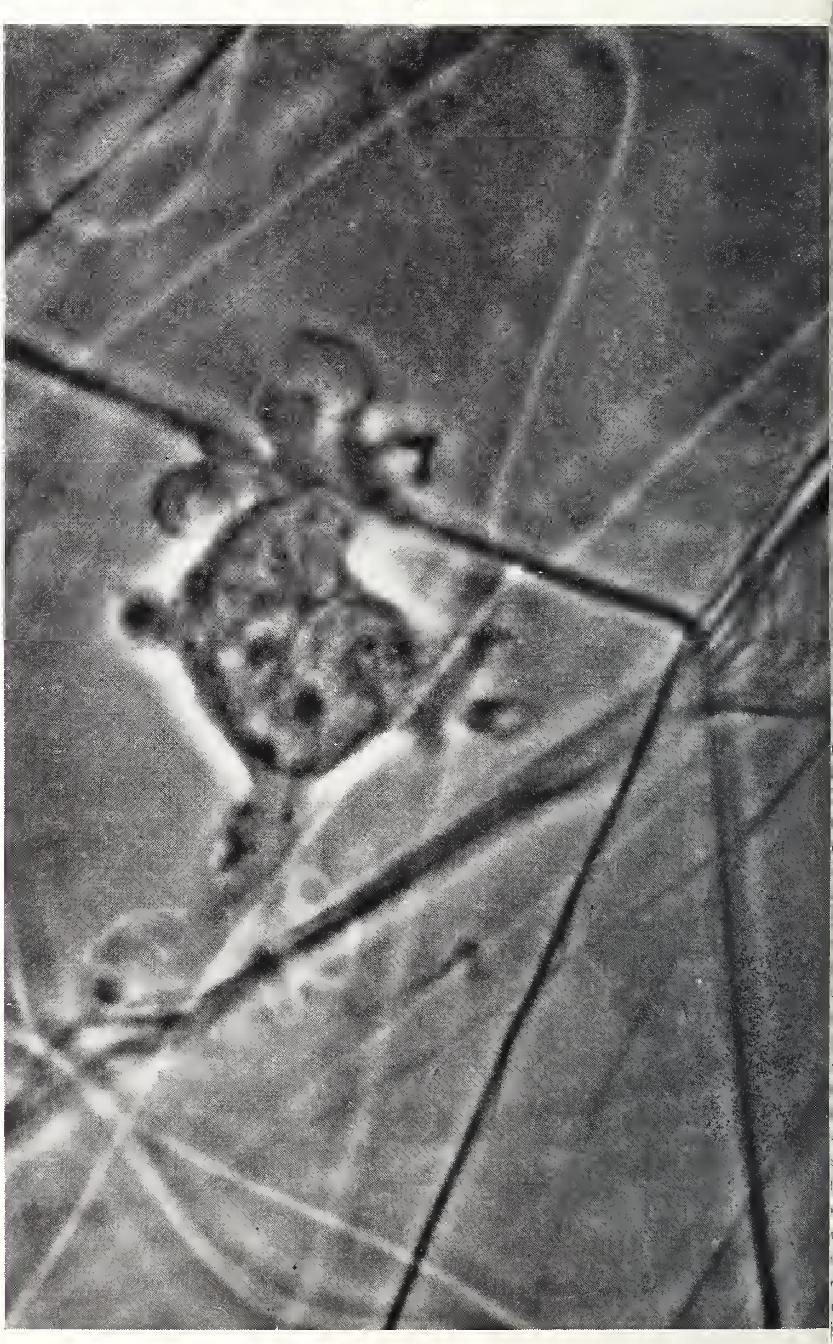

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Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

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egnant females has not absolutely
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t be used extensively on pregnant pa-
ents, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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New Members

Harold Altman, M.D., 2100 E. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Altman is a native of Kansas City, received his preliminary education at the University of Missouri and his M.D. degree at the University of Kansas in 1953. He specializes in psychiatry.

Carl E. Aulenbacher, M.D., 405 Boone, Washington, has become a member of Franklin-Gasconade-Warren County Medical Society. Dr. Aulenbacher is a native of Washington, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1965. He specializes in surgery.

Philip A. Boyer, Jr., M.D., P. O. Box 963, Kansas City, has become a member of Jackson County Medical Society. Dr. Boyer is a native of Philadelphia, Pennsylvania, received his preliminary education at Pennsylvania State College and his M.D. degree at the University of Pennsylvania in 1940. He is in pharmaceutical research.

Edward G. Cada, M.D., 901 E. Clark, Warrensburg, has become a member of Johnson County Medical Society. Dr. Cada is a native of Chicago, Illinois, received his preliminary education at the Illinois Institute of Technology and his M.D. degree at Loyola University in 1932. He specializes in internal medicine.

18
Bill O'Malley
OUT OF BOUNDS

"Here comes Doctor now!"

Marshall John Catanzaro, M.D., 2238 Laverne Court, St. Louis, has became a member of St. Louis Medical Society. Dr. Catanzaro is a native of St. Louis, received his preliminary education at Notre Dame University and his M.D. degree at St. Louis University in 1961. He specializes in radiology.

Louis H. Fingerman, M.D., 660 S. Euclid, St. Louis, has become a member of St. Louis County Medical Society. Dr. Fingerman is a native of Boston, Massachusetts, received his preliminary education at Harvard University and his M.D. degree at Tufts University in 1960. He specializes in ophthalmology.

Rex L. Jamison, M.D., 216 S. Kingshighway Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Jamison is a native of Des Moines, Iowa, received his preliminary education at the University of Iowa and Oxford University and his M.D. degree at Harvard University in 1960. He specializes in internal medicine.

Samuel T. Jones, III, M.D., 4320 J. C. Nichols Parkway, Kansas City, has become a member of Jackson County Medical Society. Dr. Jones is a native of Birmingham, Alabama, received his preliminary education at Tulane University and his M.D. degree at Tulane University in 1950. He specializes in ophthalmology.

Ray E. Kandt, Jr., M.D., 6700 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Kandt is a native of Tulsa, Oklahoma, received his preliminary education at Colorado College and his M.D. degree at Colorado University in 1961. He specializes in ophthalmology.

John A. Maxwell, M.D., 6700 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Maxwell is a native of Lima, Ohio, received his preliminary education at Harvard University and his M.D. degree at Harvard University in 1961. He specializes in neurological surgery.

James M. McEntyre, M.D., 807 Stadium Rd., Columbia, has become a member of Boone County Medical Society. Dr. McEntyre is a native of Calhoun, Georgia, received his preliminary education at the University of Georgia and his M.D. degree at the Medical College of

Georgia in 1959. He specializes in ophthalmology.

Thomas P. O'Farrell, M.D., 6400 Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. O'Farrell is a native of Kansas City, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in surgery.

Paul K. Orsay, M.D., 950 Francis Place, St. Louis, has become a member of St. Louis Medical Society. Dr. Orsay is a native of Chicago, Illinois, received his preliminary education at the University of Chicago and his M.D. degree at the University of Chicago in 1960. He specializes in radiology.

Steven M. Podos, M.D., 7505 Democracy Blvd., Bethesda, Maryland, has become a member of St. Louis County Medical Society. Dr. Podos is a native of New York, New York, received his preliminary education at Princeton University and his M.D. degree at Harvard University in 1962. He specializes in ophthalmology.

William G. Ridgeway, M.D., 7009 Weil Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Ridgeway is a native of Columbia, received his preliminary education at Princeton University and his M.D. degree at the University of Missouri in 1961. He specializes in ophthalmology.

Thomas J. Ridzon, Jr., M.D., 2850 W. Clay, St. Charles, has become a member of Lincoln-St. Charles County Medical Society. Dr. Ridzon is a native of Bergholz, Ohio, received his preliminary education at Western Reserve University and his M.D. degree at St. Louis University in 1959. He specializes in internal medicine.

Louis J. Rosenbaum, M.D., 7123 Tulane, St. Louis, has become a member of St. Louis County Medical Society. Dr. Rosenbaum is a native of St. Louis, received his preliminary education at the University of Michigan and his M.D. degree at Washington University in 1963. He specializes in ophthalmology.

George Schoedinger, III, M.D., Barnes Hospital Plaza, St. Louis, has become a member of St. Louis Medical Society. Dr. Schoedinger is a native of Columbus, Ohio, received his preliminary education at the University of Oregon

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and his M.D. degree at the University of Oregon in 1962. He specializes in orthopedics.

Arnold Schoolman, M.D., 6500 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Schoolman is a native of Worchester, Massachusetts, received his preliminary education at Yale University and his M.D. degree at Yale University in 1957. He specializes in neurological surgery.

Norris W. Smith, M.D., 3654 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Smith is a native of St. Louis, received his preliminary education at Central College and his M.D. degree at St. Louis University in 1962. He specializes in obstetrics and gynecology.

Jose Somoza, M.D., Jackson County Hospital, Independence, has become a member of Jackson County Medical Society. Dr. Somoza is a native of Holquin, Cuba, received his preliminary education at the University of Havana and his M.D. degree at the University of Havana in 1953. He specializes in pathology.

Daniel Arthur Triplett, M.D., 9511-B Adams, Ellsworth AFB, South Dakota, has become a member of Clay County Medical Society. Dr. Triplett is a native of Champaign, Illinois, received his preliminary education at William Jewell College and his M.D. degree at Tulane University in 1961. He specializes in obstetrics.

G. E. Wakerlin, M.D., 406 Turner Ave., Columbia, has become a member of Boone County Medical Society. Dr. Wakerlin is a native of Chicago, Illinois, received his preliminary education at the University of Chicago and his M.D. degree at Rush Medical College in 1929. He is in administrative medicine.

James R. Wamsley, M.D., 13046 Ferntrails Lane, Creve Coeur, has become a member of St. Louis County Medical Society. Dr. Wamsley is a native of Scottsbluff, Nebraska, received his preliminary education at the University of Nebraska and his M.D. degree at the University of Nebraska in 1956. He specializes in aerospace medicine.

George H. Zografakis, M.D., 100 N. Euclid, St. Louis, has become a member of St. Louis Medical Society. Dr. Zografakis is a native of Canea-Crete, Greece, received his preliminary education at Adelphi College and his M.D. degree at the State University of New York in 1959. He specializes in plastic surgery.

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Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should be closely supervised and should be warned to report immediately fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage. Make regular blood counts. Discontinue the drug and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. Infrequently, agranulocytosis, or a generalized allergic reaction may occur and require withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported but cannot definitely be attributed to the drug. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Painful Shoulder: 600 mg. daily in divided doses for 2 to 3 days; 300 mg. daily thereafter. Usual duration of therapy: 2 to 7 days.

Availability: Tablets of 100 mg. 6562-VI(B)R

For complete details, please refer to full prescribing information.

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Notes of interest from Here . . . . and There

Governor George Romney of Michigan has appointed **Dr. William H. Anderson** as Director of the State Department of Mental Health. Since 1963, Dr. Anderson has been Superintendent of the Mid-Missouri Mental Health Center in Columbia, the first "community mental health center" financed under PL 88-164. Prior to his work in Missouri, Dr Anderson has been Deputy Director of Neuropsychiatry at the Walter Reed Army Research Institute and Consultant in Psychiatry to the Office of the Surgeon General of the U. S. Army.

Dr. John W. Berry, St. Louis, has been installed as President of the Missouri Society of Internal Medicine. Other new officers are **Drs. Francis M. Maple,** Springfield, President Elect, and **Martin G. Austin**, St. Louis, Secretary-Treasurer. New Councilors are **Drs. William Knight, Jr.,** St. Louis, **Robert S. Mosser,** Independence, and **William D. Perry**, St. Louis.

The 27th Annual Meeting of the American Medical Writers' Association will be held at the Palmer House in Chicago, September 21 to 24. The program is designed for both physicians and journalists with interest in the field of medical writing. Further information may be obtained from AMWA, P. O. Box 267, Arlington, Virginia 22210. Attendance is open to both members and non-members of AMWA.

Dr. Doyle C. McCraw, Bolivar, was presented an award "for exceptional leadership in the Southwest Baptist College Library Building Campaign" by that College. Dr. McCraw, who is Chairman of the MSMA Council, was Chairman of this Fund Raising Committee in his community.

Dr. William W. Woodward, Independence, was one of six physicians in the latest group of U. S. medical doctors to donate two months of time and service to the AMA Volunteer Physicians for Viet Nam program.—**Dr. and Mrs. Kenneth C. Price, St. Louis**, have made a two-month visit to India as part of a "Doctors in Asia" program developed by the First Presbyterian Church of Tulsa, Oklahoma.

Dr. Pun Fai Yuen, Ellis Fischel State Cancer Hospital in Columbia, and **Dr. Michael Kyriakos, Jr.,** Washington University School of Medicine, are two of 16 physicians who have been named by the Public Health Service's National Center for Chronic Disease Control to receive senior clinical traineeship grants for advanced study in cancer control. The grants, totaling $162,000, will enable the recipients to obtain an additional year's training and experience in the prevention, diagnosis and treatment (or control) of cancer. All have completed resident training in specialty fields.

Dr. Jack S. Sanders, Jefferson City, is the new President of the Missouri Heart Association. Other officers elected at the 18th annual meeting in St. Joseph were **Lawrence F. Steffen,** M.D., Kansas City, President Elect; **Glen O. Turner,** M.D., Springfield, Vice President; **Brent Parker,** M.D., St. Louis, Secretary; and **Chester G. Starr,** Columbia, Treasurer.

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cNeill, A. J.: Clin. Med. *8*:518 (Mar.) 1961.

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ion of response predictable. Periodic
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rnicious anemia patients are essential
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E EFFECTS: In addition to withdrawal bleeding, breast tenderness or hirsutism may occur.

SUGGESTED DOSAGES: **Male and female:** 1 Tablet or Capsule, or 3 teaspoonfuls Liquid, daily or as required.

In the female: To avoid continuous stimulation of breast and uterus, cyclic therapy is recommended (3 week regimen with 1 week rest period—Withdrawal bleeding may occur during this 1 week rest period).

In the male: A careful check should be made on the status of the prostate gland when therapy is given for protracted intervals.

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Cyanocobalamin	2.5 mcg.	1.5 mcg.
Intrinsic factor concentrate	8.0 mg.	—
Thiamine HCl	—	5.0 mg.
Thiamine mononitrate	10.0 mg.	—
Riboflavin	5.0 mg.	—
Niacinamide	50.0 mg.	—
Pyridoxine HCl	3.0 mg.	—
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Ascorbic acid	100.0 mg.	—
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JOHN J. COCHRAN VETERANS HOSPITAL
915 North Grand Boulevard
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Dear Doctor:

The Veterans Administration will implement a simplified procedure, beginning July 1, 1967, for authorizing each eligible veteran to obtain outpatient medical services from the physician of his choice. An Outpatient Medical Treatment Identification Card issued to the veteran will serve as his authority to obtain outpatient care.* This procedure will substantiallly reduce paperwork associated with reporting and billing.

GENERAL. The veteran is entitled to outpatient treatment for any condition(s) recorded on his "I.D." card. Prior VA approval is not required unless fees for medical and ancillary services furnished and recommended by you exceed thirty dollars per month. Urgent treatment causing the fee limitation to be temporarily exceeded will be paid for on receipt of a brief report supporting the need for prompt medical attention.

BILLING. You may bill the VA (on your own stationery) for fees you normally charge to the general public. They will be paid to the extent that they do not exceed maximum rates established by a fee schedule negotiated with the State Medical Association. In the absence of a negotiated fee schedule, maximum rates will be established by the Veterans Administration. Payment will be expedited if the following are included on your itemized statement:

a. Patient's full name
b. His claim number
c. The service-connected condition(s) treated
d. The specific service(s) rendered and date(s)
e. Fee(s)

REPORTS. A treatment report is necessary only when the cost of urgent medical services temporarily exceeds the thirty dollar limitation or when the service-connected condition(s) has significantly changed. A change of condition may affect the veteran's benefits.

PRESCRIPTIONS. Prescriptions should be brought or mailed by the veteran to the VA Clinic of Jurisdiction when they are of a recurring nature or not needed at once. They will be filled promptly. When medication is needed immediately, it may be obtained from a private pharmacy by certifying on your prescription, "The VA has authorized me to treat the disability for which this prescription is written."

We appreciate your participation and cooperation in this program.

Very truly yours,

L. M. Rosenheimer, M.D.

Acting Chief, Outpatient Service

Show veteran's full name and VA file number on all correspondence. If VA number is unknown, show service number.

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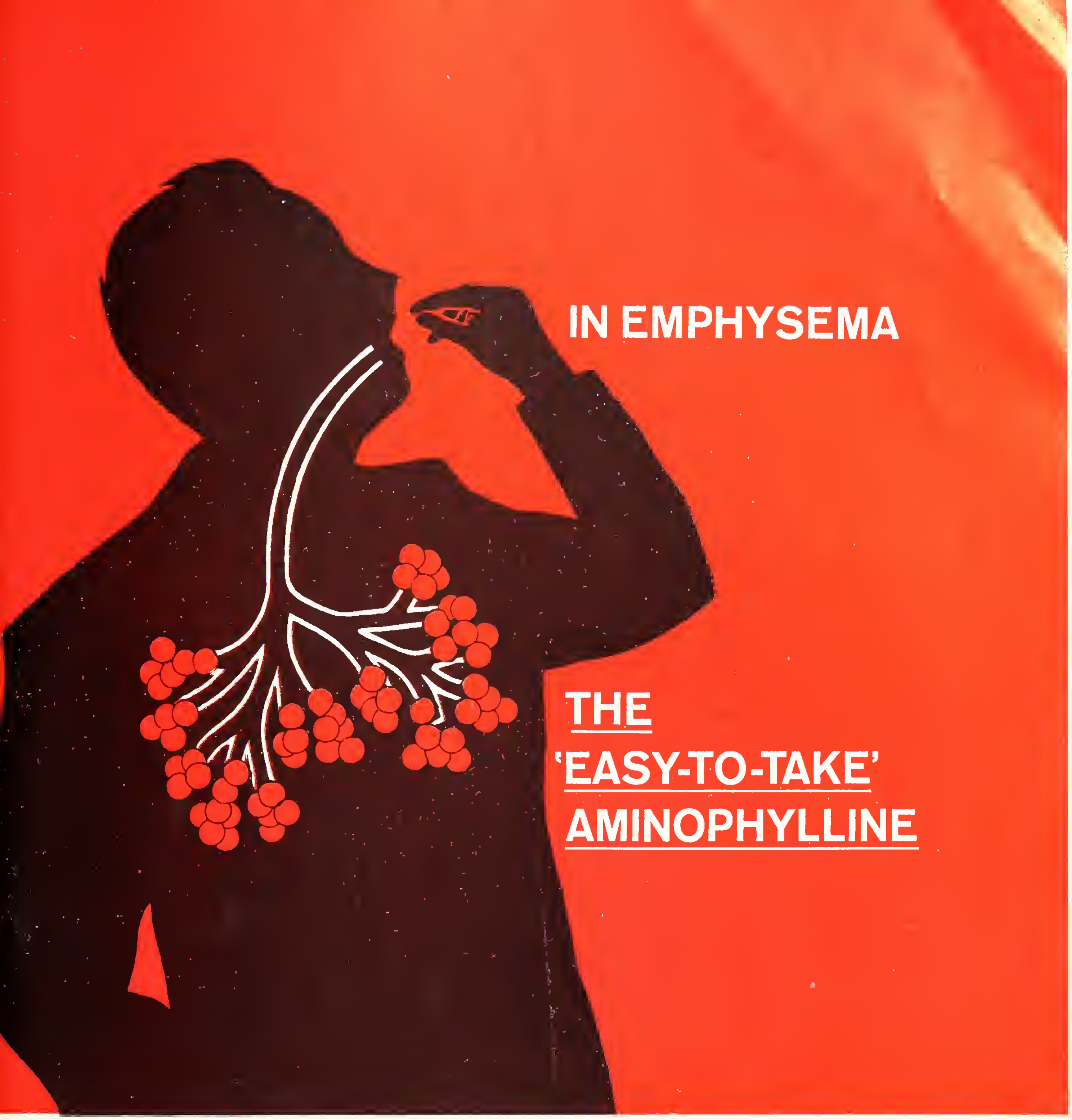
* In the State of Missouri, the official offices of jurisdiction for issuance of the identification cards to veterans are in St. Louis and Kansas City.



Aminophylline dura-tabs®
prolonged-medication tablets 4½ gr. (0.3 Gm.)

Precautions: Use with caution in patients with poor renal function as a decreased rate of excretion may lead to accumulation and untoward reactions. Gastric irritation may occasionally be observed in certain patients sensitive to oral aminophylline.

Dosage: Adults, 1 to 2 Aminophylline Dura-Tabs each 8 or 12 hours, with food.

RARELY UPSET THE STOMACH
Oral aminophylline needn't disturb the stomach—nor a good night's sleep. Patients breathe easier all day, sleep better all night, as each Aminophylline Dura-Tab dose provides effective therapeutic activity for up to 12 hours. And unlike conventional tablets, AMINOPHYLLINE DURA-TABS seldom cause gastric distress. The special Dura-Tab process allows the gradual absorption of the medication from the intestinal tract with only a small fraction of the dose released in the stomach.

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The fast-disintegrating uncoated tablet gives relief in 15 minutes

Each tablet contains:

Potassium Iodide .... 195 mg.
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Precautions: Usual for aminophylline-ephedrine-phenobarbital. Iodides may cause nausea, long use may cause goiter. Discontinue if symptoms of iodism develop.

Iodide contraindications: tuberculosis, pregnancy.

DOSAGE

One tablet, with full glass of water, 3 or 4 times daily.

Dispensed in bottles of 100 and 1000 tablets.

MUDRANE GG—Formula, dosage and package identical to Mudrane—*except*—100 mg. glyceryl guaiacolate replaces the potassium iodide. The value of Mudrane cannot be enjoyed by a small group in which K.I. is contraindicated. Mudrane GG is prepared for this group.

MUDRANE GG ELIXIR—Four 5 cc teaspoonfuls is equivalent to one Mudrane GG tablet. Dosage adjusted to age and weight of child. Mudrane GG Elixir is for pediatric patients and those who think they cannot swallow tablets. Dispensed in pint and half gallon bottles.

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Dr. H. O. Loyd Named Welfare Medical Director

Appointment of H. O. Loyd, M.D., as Medical Director for the Missouri Division of Welfare has been announced by Proctor N. Carter, Director.

Doctor Loyd will serve the Division's Bureau of Special Services in the development and operation of the forthcoming Title XIX program, as well as in other medical aspects of the department.

Doctor Loyd, who has had extensive experience in the private practice of medicine, has served on the Missouri State Board of Registration for the Healing Arts and, recently, as Associate Professor at the University of Missouri Medical Center. He is certified by the American Board of Internal Medicine and is a Fellow of the American College of Physicians.

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St. Louis Blue Shield Tops 1965-66 Membership Total

Membership in the St. Louis Blue Shield Plan reached a new record high in the fiscal year ended April 30. The announcement was made to the Blue Shield Voting Board at its 22nd Annual Meeting in St. Louis.

Dr. R. O. Muether, President of St. Louis Blue Shield, told the Board that enrollment in the medical-surgical protection plan totaled more than 767,000 members on April 30, an increase of more than 31,700 during the fiscal year.

Dues income for the year also set a new record, Dr. Muether reported. They total more than $16,500,000, an increase of about $1 million over the previous year. He said that benefits paid out for medical-surgical services rendered to members amounted to more than $13,250,000, somewhat less than in 1956-66.

Dr. Muether, St. Louis, was re-elected President of the Plan at the meeting. Other officers re-elected were Ben M. Bull, M.D., Ironton, First Vice-President; Leo J. Hartnett, M.D., St. Louis, Second Vice-President; and Philip C. McGrath, St. Louis, Treasurer. Robert N. Arthur, St. Louis, was elected Secretary and Byron M. Stuart, M.D., Boonville, and George P. Meier, St. Louis, were named members of the Plan's Executive Committee .

Drs. Martin G. Austin, Charles S. Sherwin, James C. Sisk, Alvin E. Vitt, and Herbert C. Wiegand, all of St. Louis, were newly elected to the Blue Shield Board of Trustees, as was Mr. Meier. New members named to the organization's Voting Board included Drs. C. Read Boles, Thomas J. Cooper, Richard K. Danis, George L. Hawkins, Arthur W. Neilson, Philip T. Shahan, Herbert C. Sweet, and Willard B. Walker, all of St. Louis; Francis M. Maple, Springfield; Paul G. Wolff, Cape Girardeau; C. B. Schoeberl, Joplin; and John I. Matthews, Jefferson City. Edward A. Aldrich and LeRoy A. Weidle, Jr., both of St. Louis also were named voting Board members.

All officers and board members serve Blue Shield without compensation, as a community service.

Plan to attend the 1967 Fall Pow-Wow for local medical society officers. Saturday and Sunday . . . November 4 and 5.

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Here is why. PARAFON FORTE provides:

a nonsalicylate analgesic equal to aspirin for the relief of pain,[1,2] yet unlikely to produce the irritation to the gastric mucosa so often associated with salicylate therapy[3]

and a skeletal muscle relaxant shown to have up to a 6-hour span of action,[4-6] and to retain effectiveness even on continued administration,[5-7] but which does not have the central effects of tranquilizing compounds.

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Cautions and side effects: Use with caution in patients w known drug sensitivity. If a hypersensitivity reaction or syn toms suggestive of liver dysfunction are observed, the dr should be stopped. Occasionally, drowsiness, dizziness, lig headedness, malaise, overstimulation or gastrointestinal d turbances may be noted; rarely gastrointestinal bleedi allergic skin rashes, petechiae, ecchymoses, angioneuro edema or anaphylactic reactions may have been drug ass ated. While *Paraflex* (chlorzoxazone) has been suspected being the cause of hepatic toxicity in approximately eight patients, it was not possible to state that the dysfunction w or was not drug induced. ***Dosage:*** Two tablets q.i.d. ***Suppli*** Scored, light green tablets, imprinted "McNEIL"—bottles of 1

References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*: 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. R J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Bu J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1 1959. 6. Berman, H. H., *et al.*: Dis. N Syst. *25*:430, 1964. 7. Darienzo, C.: I *27*:189, 1966.

*U. S. PATENT NO. 2,89

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AMODEX TIMED CAPSULE contains:
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Executive Assistant, Thomas R. O'Brien
Executive Assistant, Thomas P. Fox
Administrative Assistant, Allen D. Smith

Component Society Meeting Dates

Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

The recently adjourned Missouri General Assembly and the health legislation which it passed should constitute a milestone in the education of the medical profession in our state. Through the herculean efforts of Dr. John Matthews, Chairman of the Legislative Committee, and his committee members; our Executive Assistant, Mr. Allen Smith, who walked the legislative halls during the last six months in our behalf; and the strong support received from Mr. Raymond McIntyre, our Executive Secretary; we, the members of the Missouri State Medical Association, can point with pride to a sense of accomplishment which at times appeared to be far beyond our reach.

As you know, the Missouri State Medical Association through the House of Delegates and the Council supported Kerr-Mills legislation for several years and again supported the Social Security Amendments identified as Title XIX, which was a different appellation for the Kerr-Mills approach to health care for the needy. Your Legislative Committee and Council very wisely did not try to overwhelm the legislature with a message of urgency, demanding that the law be passed; but merely indicated our support, and in the best manner known to man to influence legislation—the eyeball to eyeball contact with individual legislators by individual physicians—educated them to the advantages which would accrue to the people of Missouri if Title XIX were sensibly and intelligently passed. Once the administration and the legislature had been fully appraised of the true needs of the indigent people of Missouri, they overcame their initial reluctance to accept this piece of Federal legislation and implemented it, at least its initial phase, in their own due time and in their own intelligent way.

One facet of this legislation which caused the medical profession grave concern was the last minute attempt to include chiropractic services under the act. This, indeed, would have been a serious mistake as far as the health and welfare of the people of Missouri are concerned. It took a great deal of effort on the part of individual physicians, as well as those mentioned above, to educate and orient individual legislators on the fallacy of including chiropractic in the new legislation. However, with the guidance received from Dr. Matthews and Mr. Smith, we, as individual physicians, did what we had to do and accomplished what was needed.

Hector W. Benoit, Jr., M.D.

The passage of legislation calling for the creation of a State Board of Health and the appointment of a well qualified Director of Health by this Board free of any political influence, should soon bring about a soundly functioning Division of Health with which we, as physicians, can proudly cooperate and toward which the people of Missouri can point with pride.

It is my sincere hope that what has transpired during the past six months in the legislature of the State of Missouri will not soon be forgotten by physicians of this state, and that it also will stand as an example to members of the profession in other states as to what influence we actually do have, if properly wielded, to intelligently guide our lawmakers. This will be a never-ending problem. It is of increasing importance that all of us keep abreast of what is at stake in the legislative halls of this country and do our earnest best to suppress our own selfish interests, keeping foremost the interests of the people whose health care is in our custody.

To each physician who accepted as his own personal responsibility the seeking out and educating of the representatives and senators from his district, go my heartfelt thanks and admiration.

I urge each and every one of you to get a copy of the voting record of your legislators on the Title XIX and Board of Health legislation, and make a good strong mental note of their performances. Congratulate those who voted for these pieces of legislation; and, if you find some who did not vote in what we consider to be the proper manner, do not relent in your efforts to point out to them the fallacy of their ways —not as a critic, but as one possessed of information which they sorely need.

Whatever success we have enjoyed in this recent legislative session will not be lasting, however, unless we each maintain an eternal vigil on those matters which relate to the health and welfare of the people of Missouri, and continue at all times to exercise our proper role of physician-citizen. An example of what I am referring to is the challenge we in the medical profession must now accept in view of the passage of Title XIX legislation in Missouri, to see to it that the quality of health care and the economics by which this health care is provided are within the structure of our own code of ethics—which has never been a code to protect the physician, but in truth, one to protect our patients.

"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

The long-continued action of Novahistine LP should help you both get a good night's sleep. Two tablets in the morning and two in the evening will usually provide round-the-clock relief by helping clear congested air passages for freer breathing. Novahistine LP also helps restore normal mucus secretion and ciliary activity—normal physiologic defenses against infection of the respiratory tract. Use cautiously in individuals with severe hypertension, diabetes mellitus, hyperthyroidism or urinary retention. Caution ambulatory patients that drowsiness may result. Each Novahistine LP tablet contains: phenylephrine hydrochloride, 25 mg., and chlorpheniramine maleate, 4 mg.

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Woman's Auxiliary

Mrs. John M. Williams

It occurred to me in Atlantic City that attending any meeting of doctors' wives, whether it be one of the smallest county auxiliaries or the National Convention of the Woman's Auxiliary to the American Medical Association, is very much the same if you are looking for an answer to the question, "What does the Auxiliary do?" It is rather like seeing the beginning and end of a movie which leaves with you the delightful choice of deciding the even greater heights the hero and heroine will eventually attain. All that is initiated and accomplished by each county auxiliary is the sum and substance of 50 state reports at the National Convention. This makes for a very impressive total view of what the doctors' wives of the United States do with their "leisure time."

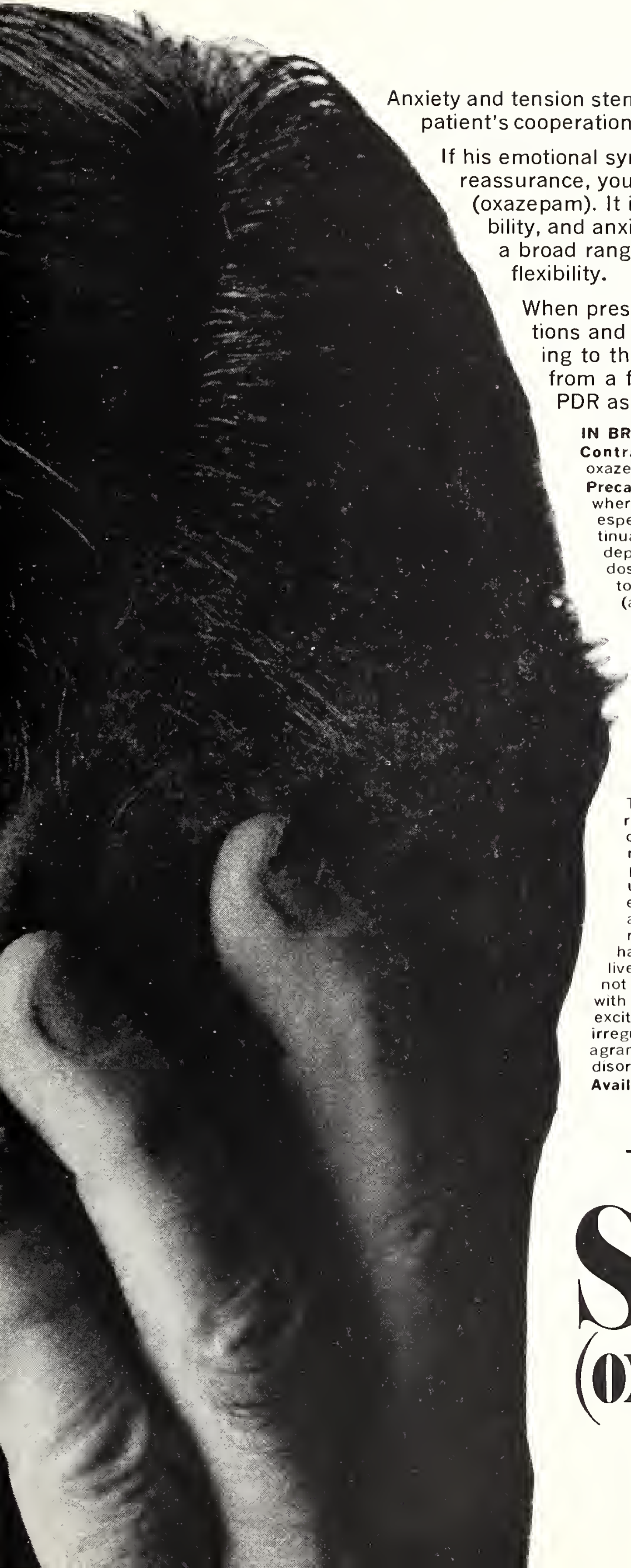
This past year, the National Auxiliary encouraged emphasis on Health Education of Children and Youth of School Age. Package programs, which included films, suggested accompanying talks in the event a physician was not available and materials to be distributed were developed and used on Teenage Venereal Disease, Developing Youth Health, Immunization, Timely Attention to the Mental Health of Children, Block Mother Plan, GEMS and Health Careers. Auxiliaries all over the nation worked alone or with other community health and health-related organizations to present these programs in the schools, churches and other community-attended areas to bring public attention to a major health concern or to provide education on a specific health need. We in Missouri, who have been so pleased to see our county auxiliaries carry out these programs so well and with such good results, are doubly gratified to know the same work is being done all over the country. The results, totaled at the national level, give an overwhelming picture of the volunteer public service rendered by our 90,000 members.

Our county auxiliaries have worked long and diligently in the field of Health Careers Recruitment. A great number of them raise funds annually to support one or more students in the Nursing and Paramedical Fields with scholarships. Health Career Days, Health Fairs and sponsorship of Future Nurse Clubs are planned and executed successfully by auxiliaries with the help and encouragement of their local medical societies.

We know there is great competition for the interest of young people of high school age in career fields. Information and help have to be made easily available to these young people if we are ever to realize the hope that sufficient numbers will go into health-related careers to meet the ever-increasing demands. This is a definite need that doctors' wives and auxiliaries cannot help but recognize and, at the same time, realize is well within the project capacity of any size auxiliary. It is certainly one that the county and state medical associations can appreciate and encourage as "something that the Auxiliary does!"

Sick,
and
worried
sick

Professionally posed



Anxiety and tension stemming from organic illness may undermine your patient's cooperation and possibly retard success of primary therapy.

If his emotional symptoms persist in the face of your counsel and reassurance, you may want to consider adjunctive use of SERAX (oxazepam). It is indicated in anxiety, tension, agitation, irritability, and anxiety associated with depression. May be used in a broad range of patients, usually with considerable dosage flexibility.

When prescribing, carefully observe dosage recommendations and appropriate precautions, especially as pertaining to the elderly and when complications could ensue from a fall in blood pressure. (See Wyeth literature or PDR as well as "IN BRIEF" below.)

IN BRIEF.
Contraindications: History of previous hypersensitivity to oxazepam. Oxazepam is not indicated in psychoses.
Precautions: Hypotensive reactions are rare, but use with caution where complications could ensue from a fall in blood pressure, especially in the elderly. Withdrawal symptoms upon discontinuation have been noted in some patients exhibiting drug dependence through chronic overdose. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose; excessive, prolonged use in susceptible patients (alcoholics, ex-addicts, etc.) may result in dependence or habituation. Reduce dosage gradually after prolonged excessive dosage to avoid possible epileptiform seizures. Withdrawal symptoms following abrupt discontinuance are similar to those seen with barbiturates. Caution patients against driving or operating machinery until absence of drowsiness or dizziness is ascertained. Warn patients of possible reduction in alcohol tolerance. Safety for use in pregnancy has not been established.

Not indicated in children under 6 years; absolute dosage for 6- to 12-year-olds not established.
Side Effects: Therapy-interrupting side effects are rare. Transient mild drowsiness is common initially; if persistent, reduce dosage. Dizziness, vertigo and headache have also occurred infrequently; syncope, rarely. Mild paradoxical reactions (excitement, stimulation of affect) are reported in psychiatric patients. Minor diffuse rashes (morbilliform, urticarial and maculopapular) are rare. Nausea, lethargy, edema, slurred speech, tremor and altered libido are rare and generally controllable by dosage reduction. Although rare, leucopenia and hepatic dysfunction including jaundice have been reported during therapy. Periodic blood counts and liver function tests are advised. Ataxia, reported rarely, does not appear related to dose or age. These side reactions, noted with related compounds, are not yet reported: paradoxical excitation with severe rage reactions, hallucinations, menstrual irregularities, change in EEG pattern, blood dyscrasias (including agranulocytosis), blurred vision, diplopia, incontinence, stupor, disorientation, fever and euphoria.
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EDITORIALS

BUILDING BLOCKS OF HISTORY

Consider, for a moment, the awesome implication of that flash of time we call a MOMENT.

In a moment, you breathed for the first time, and entered this life on earth.

In a moment, you became aware that rights and privileges demanded responsibility—or maybe that moment passed by unrecognized.

In a moment, you decided to marry—to commit your life for better or worse.

In a moment, you decided to invest and committed your funds to loss or gain.

In a moment, you jammed your foot on the car brake—maybe just in time or, sadly, not quite soon enough.

In a moment, you cast your vote that said yes or no—or maybe that moment you lost forever.

In a moment, the sound of shattering glass, the woosh of a Molotov cocktail and a riot began.

In a moment, the eye sighted, the finger squeezed and a war started.

In a moment, you stood erect, prepared for the consequences and spoke for that principle in which you believe.

In a moment, you decided to remain silent and by doing so forfeited another plot of your freedom land.

These moments are the building blocks of history—your own and the world's. How careless we are with them.

ROBERT M. MATTHEWS
Greater Kansas City Medical Bulletin

A JOB SO BIG

On my worst days I despair of my feeble medical knowledge confronting a task so formidable as the treatment of a human being. In a thousand ways I am reminded of how complex is the patient before me and with what limited resources I approach him.

Here is a person whose illness is intricate enough that I am sometimes hard-pressed to associate the migratory joint pains and the low-grade fever with the odd-looking cells in the blood and the evanescent skin rash. This is bad enough, but then I must hope for the best when I give him a pill, which sometimes causes gastric flip-flops and may create eye problems of itself. And, Oh, yes, then there is the problem that he can't swallow the pill. How strange that even a little pill will stick in his throat when a bite of hamburger sufficient to strangle a wolf finds no obstacle at all!

But we must not only deal with the patient. There are the relatives . . . always the relatives. How good it is that we have loved ones, but how tedious they can sometimes be. I recall the elderly spinster with a skin cancer who querulously inquired how I intended to treat her. This called for the standard, patient, several minute explanation of the x-ray treatment and radium needle implantation. She was entitled to the explanation, but it wasn't enough. A telephone conversation with a fond niece in Phoenix was necessary. The niece then decided to discuss the matter with an uncle in Mt. Home, Arkansas. He favored surgery. The patient however, firmly decided she was *not* going to be cut on. The last I heard of all this was that the telephone company prospered immensely, the patient was untreated and the cancer was doing fine.

This all seemed so far away from anything the professors talked about in medical school. That evening, after the charts were finished, I leaned back in my office chair, put my feet up and contemplated how hopelessly stupid I had become since leaving residency, but how infinitely more practical; how I had come to realize that some of the most simple medical problems would never be mine to solve because the pivotal point was not medical at all but, instead, were the fears, the anxieties, the insecurities and the plain cussedness of humans.

I am reminded of the remark of Feodor Chaliapin, the great Russian basso. "How sad it is," he said, "that when a man finally learns to sing, it is time for him to die." And so it will be with medicine, with me . . . and you.

WILFRED E. WOOLDRIDGE, M.D.
Greene County Medical Society Bulletin

VETERANS CAN CHOOSE OWN M.D.'S

It is good to learn that a new Veterans Administration program has been designed to reduce costs and improve outpatient care for certain qualified veterans who will be authorized to choose their own doctor for treatment at government expense. Most of these patients have service-connected disabilities.

Instead of preparing a medical report and claim form, the physician now can simply file an itemized bill with the VA. Medical reports on the patient are now required only when there is a significant change in the patient's service-connected condition.

The program was tested in three states before being adopted on a nationwide scale. Government officials report that there was no evidence that the veterans involved abused their privilege. Instead, a slight decrease in average number of visits to the doctor was noted.

At the request of the Veterans Administration, a letter containing detailed information is published on page 682. Perhaps you will want to clip it for future reference.

THE BEDSIDE SCIENTIST

Modern scientific methods are indeed magnificent. The white-coated investigators do their research, the chrome-plated equipment shines, fluids bubble in their retorts, and computers' lights flash gaily. But the accuracy of it all depends on the validity of the basic bedside investigation. Poor observation at the first doctor-patient contact point will produce errors that no amount of scientific processing can ever correct.

And to improve this kind of observation, no special machinery is needed. We need here sophisticated physicians rather than sophisticated equipment. The doctor in the front line needs four skills: he must know how to ask about and react to complaints; he must know how to solicit a history—which again means knowing what questions to ask; he must know how to do a meticulous physical examination; and he must know how to register, record and, when needed, to retrieve his findings. And he needs a fifth sense too: a kind of human compassion which tells the patient that he *is* interested, so that—warmed by this kind of rapport—the patient's story will be more meaningful, as well as more productive. Here then is the beginning of all medical research; the prime data for the "programming." This too is science as well as art. Perhaps our increasing concern with the laboratory has dulled the edge of our diagnostic clinical acumen. Or, the glamor of equipment has downgraded the traditional bedside skills. There should be comfort in the fact that the one doctor who won't be replaced by a push button is the clinician who has to assemble the data to feed into the machine.

THE JOURNAL
of the Medical Society of New Jersey

COMMENT . . .

Our Readers Write

Dear Editor:

Dr. Matt H. Backer, Jr. has presented the case against abortion in a clear, convincing and humane fashion. I have a question. Dr. Backer indicates that one in five fetuses is affected adversely by first-trimester rubella. Are not some of those effects relatively minor? Could Dr. Backer give us some indication of the proportion of fetuses who are so seriously affected by rubella as to constitute a clear and distinct burden to their families and society?

I find the notion of killing four normal fetuses to keep one abnormal one from being born quite horrifying, and I suspect that the ratio of potentially self-supporting fetuses to those who would be lifelong burdens to society is actually greater than four to one. If the normal fetuses whom so many people wish to kill had a voice, I suspect that they might agree . . . in return for being allowed to live . . . to undertake the support of the few severely handicapped ones who survive.

Solomon Garb, M.D.
Professor of Pharmacology and
Associate Professor of Community Health
University of Missouri, Columbia

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Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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GEORGE C. WEE, M.D., HUBERT LANDRY, M.D.,
LAURINE D. JACK, M.D. AND GEORGE L. TUCKER, M.D., *St. Louis*

Primary Adenocarcinoma of the Distal Segment of the Second Portion of the Duodenum

Case Report

The duodenum is a rare site for the development of carcinoma. Hamburger[1] first described primary carcinoma of the duodenum in 1746. Hoffman and Pack[2] found the incidence of carcinoma of the duodenum to be 0.033% in 350,246 autopsy subjects. Although medical, surgical and pathologic textbooks devote little space to this condition, many articles on cancer of the duodenum have appeared in the literature in the last 45 years. Most of these articles are single case reports. A review of the world literature by Brenner and Brown[3] in 1955 resulted in collection of only 474 cases. The most comprehensive review is found in Bockus' *Gastroenterology.*[4]

Mateer and Hartman[5] suggested classifying these tumors into three groups: suprapapillary, peripapillary and infrapapillary. Thus, suprapapillary tumors produce symptoms principally of pyloric obstruction; peripapillary, those of obstructive jaundice; and infrapapillary, evidence of gastrointestinal obstruction and hemorrhage. Berger and Koppelman[6] found 22.5% to be suprapapillary, 59.2% peripapillary and 15.3% infrapapillary.

Other malignant neoplasms of the duodenum are: leiomyosarcoma, lymphosarcoma, reticulum cell sarcoma and carcinoid. Weinstein and Roberts[7] were able to collect only 26 cases of leiomyosarcoma from the world literature in 1953, and carcinoid tumors were even rarer. Only 21 cases have been collected by Diffenbaugh and Anderson.[8] All varieties of carcinomas occur in the duodenum, arising from Brunner's glands or from ectopic pancreatic or gastric tissue.

Case Report

A 73-year-old Negro World War I veteran was admitted to the Medical Service on Sept. 29, 1966, with multiple complaints of shortness of breath and occasional chest pain. For the preceding 12 months, food had soured on his stomach. Anything he ate caused his abdomen to swell. He lost about 20 pounds in weight. He felt weak and had no appetite. He denied hematemesis or melena.

Physical examination revealed a well developed, but poorly nourished and confused Negro male. Palpebral and buccal mucosa were pale. The sclerae were slightly icteric. The liver was felt two centimeters below the right costal margin. There was slight right upper quadrant abdominal tenderness. No masses were present.

His sedimentation rate was 33 mm/hour; hematocrit, 27 vol %; and hemoglobin, 7.2 grams. Alkaline phosphatase was 2.4 SU and BSP 22% dye retention after 45 minutes. Liver function studies were normal. Stools were consistently strongly positive for occult blood.

Chest and gall bladder X-rays were normal. Upper

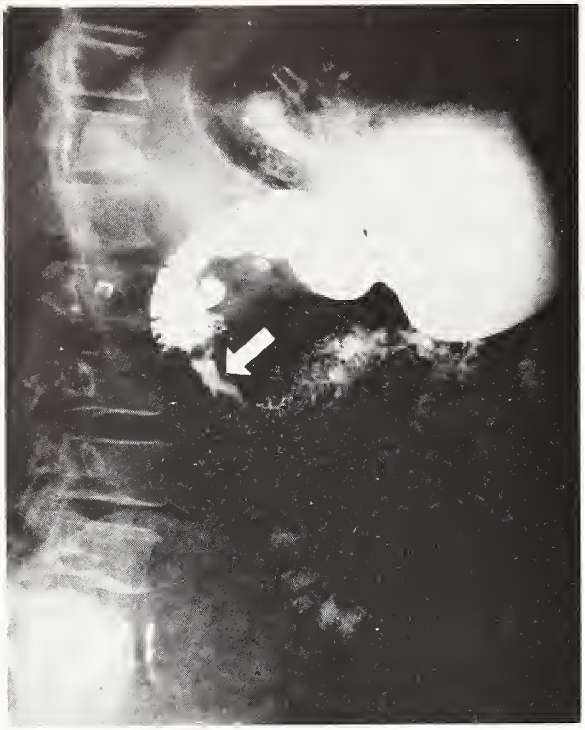

Fig. 1 Upper gastrointestinal tract X-ray revealed the presence of a constricting, partially stenotic lesion of the lower half of the second segment of the duodenum. The contours of the involved segment were irregular with effacement of the normal mucosal folds and with shelving at the proximal site. The lesion started at or just below the level of the ampulla and extended to the third segment of the duodenum. There was no evidence of the widening of the duodenal sweep and this lesion was felt to be an intrinsic process, probably carcinoma or some type of sarcoma.

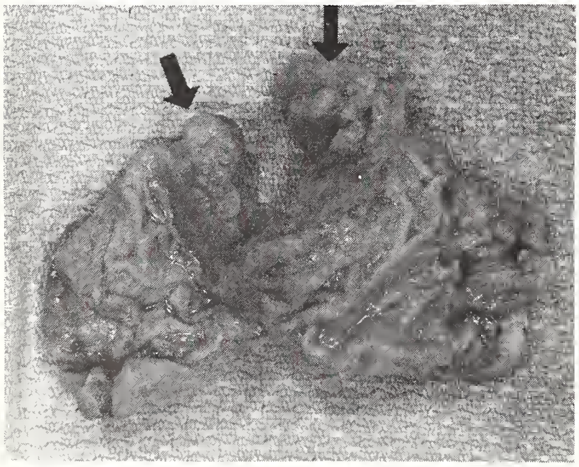

Fig. 2 Resected distal segment of the second portion of the duodenum measuring 7.0 centimeters long and 4.0 centimeters wide, demonstrating a fungating polypoid distal margin, which extended into the muscular coat. There was a distinct ulcer with undermined edges.

gastrointestinal tract X-ray (Fig. 1) revealed an intrinsic lesion of the lower half of the second segment of the duodenum, indicative of carcinoma or some type of sarcoma.

After the diagnosis of the duodenal lesion, he was given five units of blood and his hemoglobin rose to 13.6 grams. He was transferred to the Surgical Service for exploratory laparotomy, which was performed under general anesthesia. The abdomen was entered through a midline upper abdominal incision extending from the xiphoid to below the umbilicus. The superior surface of the right lobe of the liver was smooth, but the lateral edge and undersurface were studded with metastatic nodules. It was decided that a limited palliative resection would be done. After a Kocher maneuver, the tumor with a walled off perforated area was mobilized and resected. The papilla of Vater was seen about one centimeter proximal to the edge of resection. The distal end of the duodenum was closed in two layers. A loop of jejunum was anastomosed to the proximal end of the duodenum, end to side. A Penrose drain was inserted for drainage. The patient was returned to the recovery room in fair condition.

Fig. 2 shows the resected gross specimen and Fig. 3, the histological section.

The recovery period was stormy and the patient expired in eight hours. Postmortem findings were generalized peritonitis due to leakage of the distal duodenal stump. The pancreas and hepatic flexure of the transverse colon were normal.

DISCUSSION

Peripapillary carcinoma should be excluded from the classification of primary carcinoma of the duodenum. Brenner and Brown[3] stated that "ampullary (peripapillary) carcinomas should be in a separate category and should not be included with duodenal neoplasms. Most of the

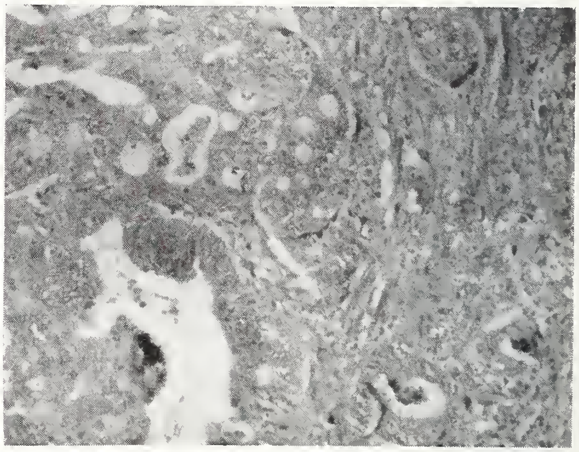

Fig. 3 Histological section: The normal duodenal mucosa merged into adenocarcinoma. The latter was composed of tubular structures and diffusely infiltrating nests, cords and individual tumor cells frequently acquiring the signet ring form.

ampullary lesions arise in the biliary or pancreatic ducts rather than from duodenal mucosa and produce a clinical picture that is different from that of duodenal neoplasm." Consequently, the incidence of true duodenal carcinomas is even rarer than indicated above.

Histologically, the cylindrical cell carcinomas predominate in the group that originates from intestinal mucosa. Ewing[9] stated that true duodenal carcinomas tend to develop in an annular cylindrical manner, thus involving the entire circumference of the intestine. Duff *et al*[10] stated that annular, stenosing form predominates over the polypoid. Some tumors have an ulcerated base.

McGowan and Wolff[11] found that metastases usually occur late in primary carcinomas, but cases with early and extensive metastatic spread have been reported. These tend to involve first the regional lymph nodes, then the liver and, finally, the lungs and bones. Early diagnosis of carcinomas presents a problem because the onset of symptoms is usually insidious. The duration of symptoms prior to the actual diagnosis ranges from five days to three years, with the average time being six to eleven months.[12, 13] Duodenal carcinomas occur two or three times more frequently in males than females. The average age of the patient presenting with symptoms is about 60 years.

The resectability rate of duodenal carcinoma has been about 20%. Thus Shallow and associate[12] found that only 15 of 70 collected cases of infrapapillary duodenal carcinomas had been treated by resection and the five-year survival rate is approximately 5%.[3] Ebert *et al*[14] stated that there is general agreement that duodenal tumors are best treated by surgical excision. However, upon exploration, metastases are found in 66% of all patients and adherence to vital structures which lie in close proximity to the duodenum may make removal hazardous.

Primary carcinoma is exceedingly rare in the duodenal bulb. Hinton[15] stated: "Clinically, one can disregard the possibility of a benign ulcer ever taking on malignant degeneration." The high incidence of ulceration of the duodenal bulb indicates that duodenal ulceration rarely is followed by neoplasm.

Of the greatest aid in the diagnosis of carcinoma of the duodenum is the roentgenologic study of the small intestine by means of barium meal. When suspecting partial or complete obstruction, a flat roentgenogram of the abdomen is imperative. Gastrografin then should be used instead of barium. Ochsner and Kleckner[16] mentioned: "Clinical diagnosis of tumor involving the duodenum depends upon the efforts of the radiologist. A roentgenologic examination of the gastrointestinal tract is the only way at present by which this diagnosis may be readily achieved." This necessitates not only a painstaking examination but, as Dunhill[17] phrased it, "a radiologist alert to the less common lesions of the alimentary tract." Weber and Kirklin[18] recorded in 1942 the correct diagnosis to have been made in 53% and McDougal[19] recorded in 1944 that 33.3% of their cases studied roentgenologically.

In addition to presenting a case report, the authors urge the classification of primary carcinoma of the duodenum into suprapapillary and infrapapillary types, excluding those of the peripapillary variety. They review literature on carcinoma of the duodenum and briefly outline operative procedures. The authors are from the Jefferson Barracks Veterans Administration Hospital where Doctor Wee is Chief of Surgical Service, Doctor Landry is Chief of Radiology Service, Doctor Jack is a Staff Physician in Medical Service and Doctor Tucker is an Attending Surgeon. Doctor Wee also is Assistant in Surgery and Doctor Tucker is Assistant in Clinical Surgery at the Washington University School of Medicine.

Laboratory data are of only indirect help in making the diagnosis, although they are valuable in evaluating the complications. Lemon[20] has found that a positive cytologic examination of the duodenal contents for tumor cells gives specific evidence for diagnosis of such neoplastic lesion.

The symptoms of duodenal carcinoma depend upon the site of the tumor. A mass is sometimes palpable, but the location varies. The early symptoms from a growth proximal to the papilla of Vater often simulate those of duodenal ulcer. The late postprandial epigastric pain is not relieved by food or antacids. The next most frequent symptom is bleeding, manifested by hypochromic anemia and occult blood in the stools. Melena and hematemesis indicate massive bleeding. In case of partial obstruction, roentgenogram will show narrowing of the duodenum and dilatation of the stomach. Bile may be absent from the vomitus, if there is complete obstruction. If the tumor encroaches upon the common duct and main pancreatic duct, there will be obstructive jaundice.

If the tumor arises distal to the papilla of Vater, in the distal segment of the second, third or fourth portion of the duodenum, it is classified as infrapapillary. The incidence at the third portion is between 0.033 and 0.040%. This location is difficult to visualize by X-rays, as it lies behind the stomach. The findings may simulate the superior mesenteric syndrome or tumor in the uncinate process of the pancreas. Symptoms may not appear until the growth has ulcerated, bled or obstructed. A mass may be felt just above the umbilicus. To differentiate pre-operatively between an intraluminal growth or pancreatic tumor is difficult. Hyperlipasemia and abnormality of pancreatic function, such as deficiency in enzymes, steatorrhea or disturbance of carbohydrate metabolism, are more suggestive of primary pancreatic growth.

Carcinoma arising from the fourth portion of the duodenum near the duodeno-jejunal junction may give rise to symptoms and signs of duodenal stasis with dilatation or the presence of a palpable mass or hypochromic anemia. Demonstration of roentgen defects near this angle is difficult, unless barium is instilled through a duodenal tube. A flat plate of the abdomen is more helpful.

The filling defects caused by pressure from external mass must be considered such as enlargement of the gall bladder; tumors of the omentum, kidney, pancreas and liver; enlarged retroperitoneal lymph nodes; aneurysmal dilatation of the celiac; superior mesenteric or hepatic arteries; or the abdominal aorta and neoplasm of the transverse colon near the hepatic flexure. These lesions may cause obstruction, but do not destory the mucosal markings. Compression by the superior mesenteric artery may cause obstruction of the transverse duodenum, the duodenal ileus syndrome.

All authors agree that the only treatment for carcinoma of the duodenum is surgery. Unfortunately, many cases already showed extensive metastases when explored. Here only a palliative procedure was undertaken. In the first portion of the duodenum, subtotal gastrectomy is carried out, if resectable. If inoperable, a palliative gastroenterostomy is done. In the peripapillary tumor of the dodenum, usually the radical Whipple procedure is the most logical solution. If inoperable, by-pass procedures are recommended. Carcinoma of the third and fourth part of the duodenum is usually treated by segmental resection. Cattell and Braasch[21] had devised a full exposure of this area by freeing the attachment of the cecum and right half of the colon and reflected them upward. In inoperable obstructive lesion in this region, palliative duodeno-jejunostomy could be easily accomplished.

Brenner and Brown[3] stated that the results of surgical treatment in their series showed little difference between the survival rates of those who received simple palliative surgery and those who underwent more radical operations. After palliative surgery, the longest survival was 24 months and after radical surgery, it was 30 months.

Summary

A case of primary carcinoma of the distal segment of the second portion of the duodenum is presented. The classification of primary carcinoma of the duodenum into suprapapillary and infrapapillary types, excluding those of the peripapillary variety, is again urged. The literature on carcinoma of the duodenum is reviewed and operative procedures are briefly outlined.

Acknowledgement: The authors wish to thank Dr. Agustin Torres, Chief Pathologist at Jefferson Barracks Veterans Administration Hospital, for the histological section of this paper and Mrs. Terry Owen for the photographs.

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Gastroschisis and Massive Bowel Resection

Case Reports

Gastroschisis, [*gastros* (Gr.) meaning belly; *schisma,* separation or division] is a rare type of congenital evisceration. This condition was first distinguished clinically from omphalocele by Moore and Stokes (1953).[1] Two patients with this lesion have been encountered at the University of Missouri Medical Center and will be reported in detail.

Even though gastroschisis is rare, the problems presented by the management of patients who have had massive bowel resections occasionally must be faced by general surgeons. Much can be learned by a study of such patients, whether treated successfully or unsuccessfully. This paper will also review the patients reported in the past ten years who have survived after massive bowel resection with less than two feet of small intestine remaining.

Case Reports

Case # 1. On Jan. 20, 1966, a four pound-13 ounce baby girl was born in Bothwell Hospital, Sedalia. The family, pregnancy and delivery history were not remarkable. At birth, much of the baby's intestine was herniated through a small abdominal defect to the right of the umbilicus. There was no membranous covering over the bowel. Attempts to reduce the exteriorized intestine by multiple enterostomies and aspirations were not successful. The baby was then transferred to the University of Missouri Medical Center. At eight hours of age, operation was performed and revealed that gangrenous changes, edema and shortening had involved almost all of the small intestine. The right colon was found to be stenotic also. By necessity, more than 30 inches of small bowel and right colon were resected and an end-to-end anastomosis carried out. Approximately two inches of viable proximal jejunum remained. A gastrostomy was done to facilitate decompression.

The baby's immediate postoperative condition was very satisfactory. However, despite the intermittent passage of stool, multiple attempts to start oral feeding met with repeated vomiting. Upper gastro-intestinal and barium enema X-rays showed residual stenosis of the transverse colon. The transit time of Gastrograffin from stomach to rectum was about four hours. Frequent serum electrolyte tests were done until the 15th postoperative day. On the 19th postoperative day, a rash was noted on the perineum. On the 21st postoperative day, the baby had hematemesis and a body temperature of 94.6° F. Serum electrolyte values were as follows: sodium, 160 mEq/L; bicarbonate, 20 mEq/L; chloride, 132 mEq/L; and potassium, more than 10 mEq/L. The patient was treated with dextrose in water, insulin, ampicillin, whole blood and plasma transfusion. The general condition deteriorated steadily. She died two days later with severe exfoliative dermatitis and sclerema neonatorum.

At post-mortem examination, the small intestine was five inches in length from the pylorus to the jejunocolonic anastomosis and there were four inches of colon from the anastomosis to the anal opening. The anastomosis was widely patent, but there was a two centimeter segment of transverse colon in which the lumen was narrowed to a diameter of 0.5 cm.

Case # 2. On July 15, 1956, a baby girl was born at Boone County Hospital, Columbia. Immediately after birth, a defect was noted in the abdominal wall just to the right of the umbilicus, through which there were herniated loops of bowel which were bound together by a thin adherent membrane. Operation was performed at one hour of age by Dr. Horace E. Thomas. Nonviability of the intestine necessitated resection of approximately 22 inches of distal small bowel and two inches of proximal colon. An end-to-end anastomosis was carried out. One month later, the patient weighed six pounds with a height of 19¾ inches. Subsequently, she was started on oral feedings of Alacta, Kanana Flakes, Lytren, Nutramigen, etc. The patient had multiple admissions later for dehydration secondary to diarrhea and vomiting.

In November, at three and one-half months of age, this child was first referred to the University of Missouri Medical Center. Upper gastro-intestinal X-rays showed that the remaining small bowel was about 18 inches long. The transit time from stomach to right colon was 15 to 20 minutes. In June, 1957, at 11 months of age, the patient was admitted because of coma and convulsions. The blood sugar was 22.7 mg%. Her feedings were increased to Nutramigen (20 calorie per oz), 30 oz every two hours during the daytime and every three hours at night. In August, she was again admitted because of macrocytic anemia with a hemoglobin of 4.6 gm% and a reticulocyte count of 20%. A Schilling test showed 1.5% recovery at 24 hours. Treatment with Vitamin B_{12} resulted in a marked hematologic response with improvement in her irritability and glossitis. She was maintained on a diet of Nutramigen which provided 150-200 calories and 10-15 gm of protein per kilogram body weight daily. Multiple vitamins were supplemented daily at 200-300% of recommended dosages with the addition of Vitamin B_{12} (25 mcg), Folic acid (4 mg), stomach powder (200 mg) and $FeSO_4$ (400 mg). By three years of age, the patient was noted to be "doing well, eating from the table, active, alert and cooperative." She had two to three stools per day.

Upper gastro-intestinal X-rays showed that barium reached the colon within one hour and that the stomach and small bowel were empty of barium at the end of two and one-half hours. Subsequent to the initiation of treatment with Vitamin B_{12}, marked gain in weight and height were noted. At five years of age, her weight was just below the 16th percentile and her height was about two standard deviations below the mean value.

In February, 1961, oral Vitamin B_{12} supplementation was discontinued. Three months later her hemoglobin had dropped from 10.5 to 6.5 gm %. Vitamin B_{12} intramuscular injections of 500 mcg were then given every six weeks. The child had frequent upper respiratory infections, pharyngitis and otitis media, but she was still able to start school at six years of age. Subsequently, she was treated in our Ophthalmology Department for esotropia and had bilateral rectus muscle resections in December, 1965. Presently, the patient is receiving Vitamin B_{12} injections every three months and she has continued to do well.

Gastroschisis

The first case of gastroschisis was described by Calder[2] in 1733. However, this condition was first clearly differentiated from omphalocele [*omphalous* (Gr.), naval or umbilicus and *kele* (La.), swelling] by Moore and Stokes[1] in 1953.

Embryologically, both are errors of development of the somatopleure, which forms the abdominal wall. Omphalocele is the result of failure of development of the somatic layer at the umbilical region which leaves the amion as the only covering for the viscera. Failure of formation of part of an embryonic fold lateral to the umbilicus results in a normal umbilical ring, but leaves a paraumbilical defect or gastroschisis. This is due to local failure or differentiation and its subsequent resorption.[3]

The distinguishing characteristics of gastroschisis (Fig. 1) are: (1) normal insertion of the umbilical cord into the abdominal wall; (2) paraumbilical full thickness abdominal wall defect (In 80% of the cases, the defect occurs to the right of the umbilicus.); (3) absence of peritoneal covering over the exteriorized viscera.[4]

Two clinical types of gastroschisis are described: antenatal and perinatal. In the former, the eviscerated mass of intestine is relatively rigid and is surrounded by a thick gelatinous matrix of peel. The peritoneal cavity in these cases is abnormally small. Prematurity is encountered with considerably greater frequency. In the second type, the appearance of the bowel and the size of the peritoneal cavity is relatively normal. The evisceration in these cases probably occurs late in pregnancy and is possibly produced by uterine contractions prior to or during active labor.[5] Our Case # 1 belongs to the perinatal type, and Case # 2 belongs to the antenatal type. It is interesting to note that gastroschisis occurs in lower animals as well as in human beings, since it has been seen with comparative frequency in such animals as the pig, kitten and lamb.[6]

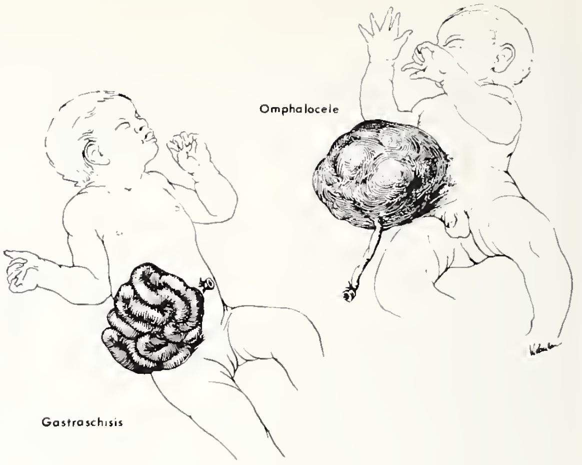

Fig. 1

Other associated congenital anomalies have been reported in 41 to 81% of the patients with omphaloceles. These are most frequent in the gastrointestinal tract (more than 50%), cardiorespiratory and genito-urinary systems.[7] Major coexisting malformations are less common in patients with gastroschisis. However, "there is virtually a non-rotation of the gut with an essentially bilobular liver and a gut which is on a straight mesentery."[8] Three cases of atresia of the small intestine were found among 31 cases of gastroschisis reported by Moore.[5]

When the congenital anomaly of gastroschisis is recognized at birth, immediate operation should be advised. Gentle handling and strict sterile technic are important. Operative treatment includes provision of a covering for the herniated bowel. In a small defect, primary fascial closure is possible. In a large defect, the skin alone should be closed. The skin flaps may be widely undermined and even manually stretched to create more room in the abdominal cavity.[8] A secondary repair of the ventral hernia can later be carried out in one[9] or several stages.[10] The operative mortality approximates 50% in the reported cases.[4] This is influenced by the size of the abdominal defect, type of the eviscerated mass, extent of intestinal ischemia, coexisting malformations, prematurity, timing of the operation and, most important of all, careful postoperative management.

Massive Small Bowel Resection

The length of the normal small intestine exhibits wide individual variation. In adults, measurements vary from 304 cm to 863 cm (10 ft to 28⅓ ft.).[11] In babies less than one month old, the length of the small intestine ranges from 140 cm to 530 cm.[12] A recent study showed that in 72% of the children, the length of the small intestine was four to six times the body height (crown to heel).[13]

With this information as a background, it is meaningless to give an arbitrary definition of "massive bowel resection." Since the collective review of Haymond[14] in 1935, resection of more than 200 cm of bowel has been accepted as "massive." However, for subsequent evaluation of the patient, determination of the amount of residual functioning bowel is more important than the measurement of the surgical specimen. Pietz[15] collected 42 cases in 1956 and made the conclusion that "the absence of all but one to two feet of mesenteric small bowel is compatible with fair nutrition and absence of diarrhea and severe metabolic disturbances." The long term survival of patients with less than two feet of mesenteric small bowel is still an unusual therapeutic triumph. Since Pietz's review, we have collected 42 cases from the English literature [twelve cases are from the pediatric age group (Table 1) and 30 cases are from the adult group (Table 2)]. Much information can be learned from a study of these cases.

A. Patho-physiology of the Small Intestine

The clinical picture produced by massive small bowel resection is one of starvation and steatorrhea.[53] Some gastric absorption of water, glucose, protein hydrolysate, methionine and glycine was demonstrated in a case of gastro-colostomy.[54] The principal functions of the small intestine are digestion and absorption of fat and protein; that of the colon is re-absorption of water and electrolyte. By comparing the utilization of "natural" versus "synthetic" diet in a patient who survived resection of 90% of the small intes-

TABLE 1

Massive Small Bowel Resection in Children*

Author	*Age at Op.*	*Sex*	*Diagnosis*	*Operation*	*Length of Residual Small Bowel (cm)*	*Follow-up*
Berman (1957)[16]	NB	F	Gastroschisis and atresia	Jejuno-transverse colostomy	46	L & W 3 Y
Hartman (1957)[17]	14M	F	Volvulus	Jejuno-ileostomy	50	L & W 1 Y
Pilling (1957)[18]	3 Wk	M	Volvulus	Jejuno-ileostomy	26	L & W 4½ Y
Pilling (1957)[18]	NB	F	Volvulus	Jejuno-ileostomy	28	L & W 1½ Y
Clayton (1961)[19]	10M	M	Intussusception	Gastro-ileostomy	38	L & W 1½ Y
Gallant (1961)[20]	NB	F	Volvulus	Jejuno-ileostomy	38	L & W 11 M
Lawler (1962)[21]	5 Wk	M	Volvulus	Jejuno-ileostomy	15	L & W 1½ Y
Schutta (1962)[22]	NB	F	Atresia and volvulus	Jejuno-ileostomy	50	L & W 1 Y
Wilkinson (1963)[23]	NB	M	Atresia and volvulus	Jejuno-ileostomy	38	Died 3 M (bronchopneumonia)
Moe (1964)[24]	2 Wk	F	Volvulus	Jejuno-ileostomy	30	L & W 2½ Y
Anderson (1965)[25]	14½Y	F	Volvulus	Jejuno-ileostomy	15	L & W 7½ Y
MacMahon (1966)[26]	1 Wk	M	Volvulus and abscess	Jejuno-transverse colostomy	20	Died 6 M (? hypocalcemia)
Case # 2	NB	F	Gastroschisis	Jejuno-right colostomy	46	L & W 10 Y

* *Note:* Only cases with mesenteric small bowel less than two feet (61 cm) who survived on oral feeding over two months and reported since 1956 are included.

TABLE 2

MASSIVE SMALL BOWEL RESECTION IN ADULTS*

Author	*Age at Op. (Y)*	*Sex*	*Diagnosis*	*Operation*	*Length of Residual Small Bowel (cm)*	*Follow-up*
Richardson (1956)[27]	48	M	SMA occlusion	Jejuno-ileostomy	22	Died 17 M (heart failure)
Schwartz (1956)[28]	39	M	SMA occlusion	Jejuno-transverse colostomy	45	L & W 3 Y
Trafford (1956)[29]	51	M	Regional ileitis	Jejuno-cecostomy	38	L & W 5 Y
Kogan (1957)[30, 30a]	39	M	Jejuno-ileitis	Jejuno-transverse colostomy	46	L & W 4½ Y
Kogan (1957)[30, 30a]	53	F	Strangulated hernia	Jejuno-right colostomy	46	L & W 2 Y
Kogan (1957)[30, 30a]	64	F	SMA occlusion	Jejuno-transverse colostomy	46	L & W 2 Y
McDaniel (1957)[31]	33	M	SMV thrombosis	Jejuno-ileostomy	60	L & W 2 Y
Jordan (1958)[32]	54	M	SMA occlusion	Jejuno-transverse colostomy	35	Died 23 M (heart failure)
Lundquist (1959)[33]	65	F	SMA occlusion, ovarian carcinoma	Jejuno-right colostomy	4	Died 8 M (cachexia)
Miller (1959)[34]	24	F	Malrotation	Duodeno-transverse colostomy	—	L & W 6 M
Weinstein (1959)[35]	20	M	Regional ileitis	Jejuno-transverse colostomy	46	L & W 12 Y
Weinstein (1959)[35]	47	M	Regional ileitis	Jejuno-transverse colostomy	61	L & W 12 Y
Harrison (1960)[36]	80	F	SMA occlusion	Jejuno-right colostomy	46	Died 9 M (cachexia, tubercuolsis)
Fletcher (1960)[37]	39	F	Adhesion	Jejuno-ileostomy	40	L & W 5 M
Sampsel (1960)[38]	69	F	SMV thrombosis	Jejuno-ileostomy	35	L & W 2½ Y
Jarnum (1961)[39]	57	M	SMV thrombosis	Jejuno-right colostomy	20	Died 7 M (cachexia)
Levin (1961)[40]	42	F	Fibrosarcoma of mesentery	Duodeno-ileostomy	20	Died 8 Y (hypo-potassium nephropathy)
Sullens (1961)[41]	53	M	Volvulus	Jejuno-ileostomy	41	L & W 14 M
Meyer (1962)[42]	19	M	SMA occlusion	Jejuno-transverse colostomy	46	L & W 16 Y
Gibson (1962)[43]	84	F	SMA occlusion	Jejuno-transverse colostomy (7.5 cm reversed segment)	28	L & W 1 Y
Kinney (1962)[44]	21	M	Volvulus	Duodeno-transverse-colostomy	—	L & W 13 M
Opie (1964)[45]	47	M	SMA occlusion	Jejuno-transverse colostomy	25	L & W 2½ Y
Durban (1964)[46]	58	F	Volvulus	Jejuno-transverse colostomy	61	Died 6 M (diarrhea)
Chatterjee (1965)[47]	61	M	Carcinoma of rectum, strangulated hernia	Jejuno-right colostomy	46	L & W 15 M
Doyle (1965)[48]	49	M	Carcinoma of colon	Jejuno-left colostomy	31	L & W 1 Y
Mackby (1965)[49]	51	F	Strangulation	Jejuno-ileostomy (recirculating loop)	21	Died 2 Y (pyelonephritis, hemosiderosis)
McCourtie (1965)[50]	80	F	SMA occlusion	Jejuno-transverse colostomy	31	Died 7½ M (pulmonary embolism)
May (1966)[51]	34	F	SMA occlusion	Jejuno-transverse colostomy	13	L & W 5 Y
May (1966)[51]	69	F	SMA occlusion	Jejuno-transverse colostomy	46	L & W 10 M
Winawer (1966)[52]	17	M	Volvulus	Jejuno-ileostomy	18	L & W 2 Y (tuberculosis)

* Note: See note under Table 1.

SMA = Superior mesenteric artery.

SMV = Superior mesenteric vein.

tine, it was shown that the small bowel is much more important for the absorption than for the digestion of food.[55]

The relative sites of absorption in the small intestine have been defined further by Booth *et al.*[56] Glucose, folic acid and water soluble vitamins, such as pyridoxine and ascorbic acid, etc., are absorbed proximally. Fat (including fat soluble vitamins A, D, K) and protein are absorbed to a large extent in the jejunum, but their rate of absorption is slower than that of glucose or pyridoxine. The absorption of vitamin B_{12} is limited to the ileum. Moe[24] stated that iron is absorbed mainly in the duodenum.

B. Compensatory Mechanisms After Massive Resection of Bowel

There is a large reserve margin in the surface area of small intestine available for absorption. At least 50% of the small bowel may be removed in the majority of patients without producing marked alteration in its absorptive efficiency.[57] However, in cases of massive bowel resection in which less than two feet of small bowel remains, the following four compensatory factors will come into play:

1. *Increase in the absorptive surface*

Experimentally, after extensive resection of the small bowel, there is hypertrophy of the remaining intestine with increase in diameter and thickness of the wall. Histologically, there is widening of the villi with increased arborization and deepening of lateral indentations.[58] Flint[59] concluded that the absorptive surface of the remaining bowel can be increased to about 400%. Linear lengthening of the remaining bowel was not found in clinical or experimental studies. However, recent case reports[24, 48] supported by X-ray studies suggest that this linear compensation and growth is possible.

2. *Decrease in the motility of the stomach and small bowel*

Repeated X-ray and fluoroscopic studies of the gastrointestinal tract have shown a definite diminished intestinal motility. The food stays in the stomach longer and, presumably, this leads to a more complete gastric digestion. The stomach-to-cecum transit time in patients with a short remaining gut was approximately the same as that of patients with a normal gut.[18]

A report of two cases of gastroschisis, a congenital anomaly different from omphalocele, for which surgical management involved extensive resection of the small intestine. After reviewing 42 successful cases reported in the literature, the author presents guide lines for nutritional management of patients with massive resection of the small intestine. Doctor Lee is from Ellis Fischel State Cancer Hospital where she is a Senior Clinical Trainee in Cancer Control for the U. S. Public Health Service.

3. *Increase in the absorptive capacity*

Even though there is no evidence of "intestinalization" of the distal stomach or proximal colon,[44, 60] an enlarged stomach and tremendously dilated colon can act as a reservoir and probably allow more complete absorption of fluid and electrolyte. The large stomach may assist in prolonging the period during which food enters the small intestine, and the dilated colon may behave like the rumen of ruminants, where carbohydrate is fermented by bacterial activity and volatile fatty acids are absorbed.[25]

4. *Conservation of energy expenditure*

In a patient reported from South Africa, the basal metabolic rate fell to minus 53%.[61] In Kinney's patient,[44] the basal metabolic expenditure was 10 to 15% less than the normal predicted value. Almost all of the patients had a marked drop in body weight and subsequently stabilized at a lower level. This decrease in caloric expenditure with a loss in lean body mass has been an important conservation mechanism in the survival of these patients. Kogan *et al*[30, 30a] reported that ACTH and the cortisones can cause a definite clinical improvement and enable the patient to regain part of the lost weight.

C. Nutritional Management in General

Surgical means of combating malabsorption following massive small bowel resection have included reversed intestinal segments[43, 62] and recirculating loops[49] to decrease transit time and to increase absorption, or vagotomy and pyloroplasty to decrease the gastric hyper-acidity and gastro-intestinal motility.[52, 63, 64] However, a recent paper[51] has raised the question, "Are adjunctive surgical procedures necessary?" Obviously many patients have survived in good health after massive bowel resection.

Even though it has been shown that patients can live without special dietary supplementation for over three years following resection of all but a short length of small intestine,[61] survival after massive bowel resection depends primarily upon careful management. The main therapeutic problem is that of steatorrhea; fecal nitrogen loss is directly related to the stool volume.[28] A high protein, high calorie, low fat diet in frequent feedings may enable the patient to maintain a good state of nutrition. Medications to control diarrhea, such as Sorboquel,[48] parenteral codeine[44] and kaolin mixture with pectin paregoric[51] have been used successfully. It also has been shown that medium-chain triglyceride is completely absorbed by the short gut and this knowledge has been applied in the management of steatorrhea.[52, 65] Another report incriminates free fatty acid, such as ricinoleic acid, as the impertant eitologic agent in the diarrhea which follows small bowel resection. By giving extra oral calcium salt and thus converting the free fatty acid into calcium soap, troublesome diarrhea has been avoided.[66]

For long term management, blood transfusions, folic acid and vitamin B_{12} have been used.[44] Oral supplementation of magnesium can prevent late complications of magnesium deficiency and tetany.[25, 37, 44, 45] Provided steatorrhea is controlled and weight maintained by the high protein intake, routine electrolyte supplementation is not necessary.[56] However in practice, formulae of amino acids, NaCl, KCl, multivitamins, calcium and magnesium are often used.[42, 44]

D. Nutritional Management in Children

While Clatworthy *et al*[58] showed that puppies one to four weeks old can grow and develop normally after 40 to 80% of the small bowel is resected, Potts[67] believes that "an infant can not part with more than 15 inches of intestine and live." Jackson,[68] who in 1925 performed the first successful extensive small bowel resection in an infant, observed that "The infant, if it survives the immediate effect of the operation, may exhibit a greater adaptive power in the remaining bowel than the adult."

The postoperative care of children with less than two feet of remaining small intestine is certainly a challenge. Close surveillance of fluid and electrolyte balance with accurate monitoring of intake and output, frequent blood chemistry tests and weight determination every eight hours[20] is important. Milk and liquid protein concentrates tend to "pass through" the gut quickly[19] and early institution of suitably thickened and fortified feedings provide better absorption.[23] Since a low fat (1 to 2%) diet is required, Nutramigen,[21] Hipro and Probana[18] may be used in the formulae for young infants. Intravenous Lipomal, which consists of 40% peanut oil in dextrose and 2% soybean phosphate, has been used to help the weight gain of a neonate.[6] Intravenous fluid therapy, in addition to the oral intake, is necessary when episodes of diarrhea and dehydration occur. The liberal use of blood and plasma transfusions may play a significant role in the survival of such infants.[22] Megaloblastic anemia, which may occur after extensive resection of the distal small bowel, usually develops about one year later (as in our Case # 2) and responds well to vitamin B_{12} therapy.[69]

Babies are not just small adults. With proper "cultivation," they can tolerate and outgrow the insult of massive bowel resection.

SUMMARY

Gastroschisis is a distinct congenital anomaly which must be differentiated clinically from omphalocele. Two previously unreported patients with gastroschisis have been presented, one of which has survived more than ten years. The surgical management of both involved extensive resection of the small intestine.

The cases presented in the English literature since 1956, which were managed successfully after resection of all but two feet of functional small intestine, have been reviewed. The pathophysiology and compensatory mechanisms which follow resection of the small intestine have been discussed. Based upon a study of these cases, guide lines to successful nutritional management of both adult and infant patients with massive resection of the small intestine have been presented.

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A Radiological Quiz

Three Faces of a Bowel Neoplasm

M. WENDELL DIETZ, M.D.,* *Springfield*

The roentgenologist's preoccupation with persistency of X-ray findings rivals the obsession of the poet with the constancy of romantic love. Since the advent of radiodiagnosis, phraseology has reflected the merits of resoluteness: "a stable pulmonary infiltrate," "a constant filling defect," "an unchanged ulcer crater."

Notwithstanding the virtuosity of tenacity of such signs, this brief case presentation stresses the capricious in the roentgen life of a curious bowel tumor. Familiarity with its fundamental nature not only indicates the correct histological diagnosis, but may predict its bizarre clinical behavior.

Before turning to page 710 for the answers, take the quiz to test your knowledge of this disease.

The Clinical Syndrome

An 88-year-old female was hospitalized because of a recent onset of a profuse, watery diarrhea with vomiting and marked weakness. Although cooperative, the patient was too disoriented to provide a reliable history. She was extremely lethargic and slept throughout her clinician's visit.

Physical examination revealed a dehydrated, wasted, elderly woman, but was otherwise negative. Significant laboratory findings on admission were limited to a mild anemia and a BUN of 54 mg %. Barium enema studies revealed an extremely ragged neoplastic deformity of the proximal transverse colon.

Question # 1. A specific colon tumor variant causes this syndrome. What is the tumor? The syndrome?

Answer # 1. ______________________

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Fig. 1 A representative roentgenogram, from the initial examination, showing a prominent fungating colon tumor. It appears to encircle the entire bowel, but is nevertheless nonobstructive. This is no sharply-marginated filling defect with persistent contours. Its remarkably irregular pattern is best described in terms of a warty or bubbly appearance with multilobulated excrescences.

Question # 2. These morphologic features are typical of a colon tumor frequently reported in the recent medical literature. Can you name it?

Answer # 2. ______________________

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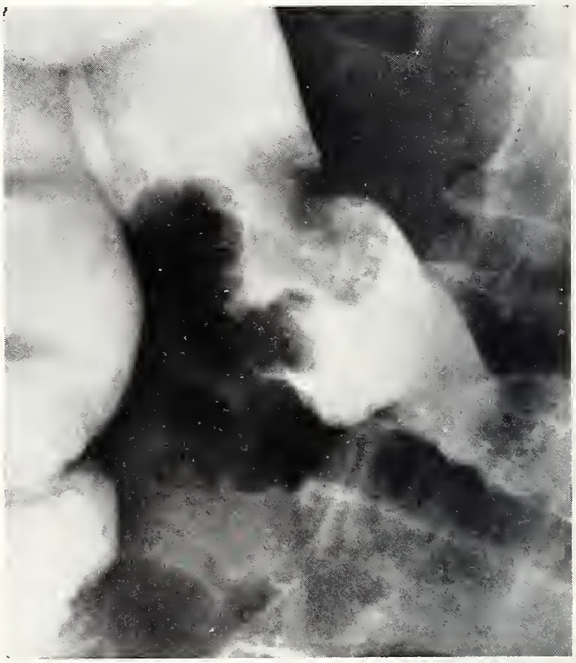

Fig. 1

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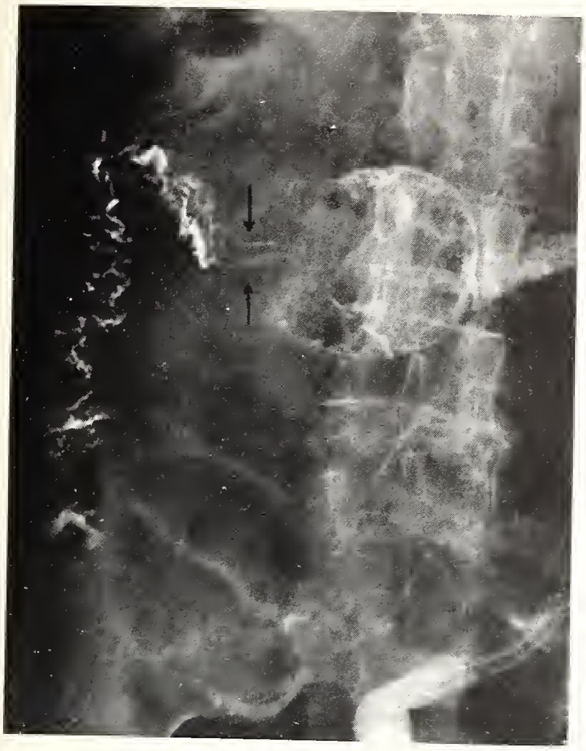

Fig. 2

Fig. 2 In a postevacuation projection, exposed 17 minutes later, the tumor is no longer visible! Beyond the original tumor site, the transverse colon is spherically dilated. Arrows point to several parallel, longitudinally-directed rugal folds linking uninvolved normal mucosa to the abrupt zone of marked enlargement.

Question # 3. During defecation, a specific complication of intestinal tumors occurred that precisely explains both the disappearance of the neoplasm and the focal bowel expansion. What is the complication?

Answer # 3. ______________________________

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Celiotomy was recommended for resection of the colon tumor. The patient declined operation, however, and was subsequently discharged to a nursing home.

Fig. 3 A "second look" four months later. Can this be the same tumor as shown in Fig. 1?

(This examination was performed during a second hospitalization requested by the patient who now agreed to extirpation of the lesion.)

The tumor has changed dramatically in size and contour. It appears smaller, much less irregular, more sharply-demarcated.

Question # 4. Variation in appearance in consecutive X-ray studies is typical of this neoplasm. Do you recognize it?

Answer # 4. ______________________________

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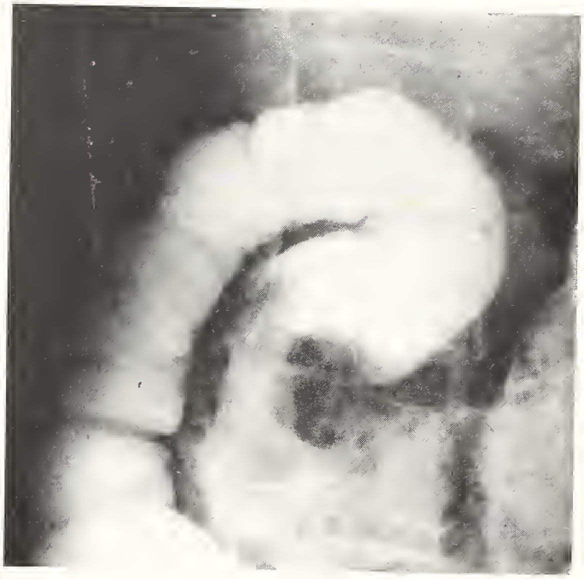

Fig. 3

To grade your answer to this quiz, turn to the next page.

ANSWERS TO COLON QUIZ

1. A mucodiarrhea with debilitating water and *salt loss in a geriatric patient with a colon tumor* strongly suggests the diagnosis of a VILLOUS ADENOMA WITH ELECTROLYTE DEPLETION. Surface villous projections may actively secrete sufficient mucus of high salt content to cause hyponatremia, hypokalemia and circulatory collapse. Hypokalemic nephropathy is probably the basis for renal insufficiency.

Cardinal clinical features of the depletion phenomenon include mucorrhea, weakness, dehydration, mental confusion, hypotension and nausea and vomiting.

(Not only is this growth relatively uncommon in the proximal bowel, but electrolyte disturbance has rarely accompanied billous tumors of the right colon.)

2. The VILLOUS ADENOMA originates from surface epithelial cells and characteristically spreads laterally. It forms a large, broad-based, irregularly and poorly demarcated polypoid mass. Microscopically, innumerable papillomatous branching outgrowths are present, covered by mucus-producing epithelium with only thin strands of loose connective tissue.

These papillary adenomas predilect the rectosigmoid and frequently undergo malignant transformation.

Because of their pathognomonic serrated, feathery margins and the splotchy barium outline, they are often mistaken for retained fecal material.

3. The villous adenoma has undergone descending colocolic INTUSSUSCEPTION during defecation. The tumor is not identifiable because, as the "leader" of the intussusception, it has telescoped forward into the receiving bowel sheath, the intussuscipiens. This distal loop is naturally quite dilated: it contains the tumor, both the in- and out-going walls of the intussuscepted loop as well as its mesentery. The longitudinal rugae demarcate the narrow central channel of the invaginated loop.

Although the bowel wall is normally pliable in the absence of carcinoma, intussusception of villous papillomas is not common, probably because of their diffuse rather than localized growth without pedicle formation.

4. Variability in characteristics is a distinctive stigma of the VILLOUS ADENOMA:
   It is a soft, pliable tumor with scant stroma.
   Peripheral tumor fronds are mobile.
   The frothy, warty pattern is due to barium insinuating into the irregular clefts between polypoid protrusions.
   A significant portion of the demonstrable mass may be the collected surface mucus. Its passage during preparatory enemas reduces the size of the lesion.
   Spontaneous expulsion of friable villous elements modifies the X-ray configuration.

Addendum: Transverse colon resection yielded a 6 cm villous adenoma with carcinoma in situ of the mucosal epithelium. Underlying bowel layers were intact. The noninvasive tumor was neither fixed nor ulcerated.

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The Worker's Fear of Automation

The accompanying paper, "The Worker's Fear of Automation," is published with full knowledge and recognition of its controversial nature. The Editors found the work to be interesting and thought-provoking. They also found that, despite considerable documentation, the author relies heavily on "subjective conjecture" and basic theses whose validity are not (and, perhaps, cannot be) proved. The Editors suggest that there *may be* many workers who do not "fear" automation. (Indeed, there *may be* workers who are looking forward to automation as the key to less work and more pay!) There is also the possibility that "fear" of automation *may be* just another problem that the worker has to face, along with "fear" of layoffs, "fear" of depression, "fear" of incapacitating illness, etc.

Perhaps the real value of Doctor Dickerson's paper lies in the fact that it calls attention to just one problem of our increasingly complex society which deserves extensive scientific examination. The mental and physical health of future generations (or even our own!) may depend on finding the answers to these problems.—The Editors

Unlike automation, which has become a futuristic realization in our modern society, man's fear can emerge as primitively as it did when viewing fire for the first time. Man can and will call forth this emotion, which has in part enabled him to survive, to deal with the uncertainty of the "automated age," unless he develops the capacity to adapt to the changes inherent in this age.

Although not a particularly frightening thought to many members of our society, the affected worker may view automation as a method of subordinating his individuality or as a measure to undermine his security.

What Is Automation?

Automation, from the Greek word "automatizen," has a multiplicity of definitions. McCord[1] defines automation as: "A system of production by automatically-controlled machines which carry out complex movements formerly performed by lever-operated or power-driven machines or by hand. Electronic devices called 'feed-backs' control these machines and send back information to the controls, which then, by remote control, make changes or adjustments in the production process."

Some writers have described automation as a second industrial revolution[2, 3] and point out the advantages and disadvantages in relation to the social consequences evolving from the first industrial revolution. Industries differ in the extent of conversion to automatic or semiautomatic operations. Some limit operations to mechanical and electronic services controlling machines linked together with conveyors, chutes and other equipment into a continuous flow operation. Others may then add an electronic computer or "brain" to operate the machines through a feedback mechanism. These automated methods are affecting almost every industry and rapidly expanding in offices, communications, farming, railroads and large chain stores.

History

As man became aware that tools could replace his restricted muscular capabilities, he gradually developed the lever, pulley and wheel. One wonders at the fear experienced by the *Cro-Magnon* man when viewing his neighbor using the lever or wheel for the first time. This fear is more readily appreciated when realizing that the basic emotional and intellectual capabilities are about the same now as they were for the *Cro-Magnon* man.

Fear of automation was expressed in Greek mythology in the form of Hephaestus, god of fire and artisans, who built a corps of mechanized servants for his castle on Olympian heights.

Contrary to popular opinion, the Dark Ages produced many technologic breakthroughs. The cam shaft was invented, whereby rotary movement was transformed into reciprocal movement so that not only grain could be ground, but wool could be carded, beer made, oak bark made into powder for tanning and paper made from pulp. The power of the wind was captured by the windmill and by learning to sail ships in directions other than downwind. The power of the horse was more effectively utilized by shodding his feet and changing the harness from his midsection to his shoulders, thereby taking advantage of his shoulder strength. The spinning wheel was invented. Metal tools were made harder. The concept of artesian wells was put to use. Coal was burned and chimneys were built. Water mills were markedly improved over the oriental type. The wheelbarrow was introduced.

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With the industrial revolution came a sustained acceleration of technologic breakthroughs which has endured to the present. Geared at this pace, technologic advances have changed almost every method used in the preparation and distribution of goods, arriving recently at a state called "automation," created through extremely compact technology.

Thus, we are dealing with a society with advanced technologic methods, but with primitive emotions. Indeed, the possibility that man can be replaced by a machine[4, 5] is a frightening thought unless countered by active and sound reasoning.

SCOPE OF THE PROBLEM

The proper evaluation of the impact of automation on our present society must include various factors, such as sex, age, length of service of the worker and job retraining opportunities. All directly or indirectly relate to the employee's feeling of job security, the extent of work load relief from a change over to automated procedures and the creative opportunities gained or lost in the change over process.

Faunce *et al*[6] mention three important aspects to be considered in any discussion of the relationship between automation and the employee. First, how does automation affect the job satisfaction and material welfare of employees? Second, what are the attitudes of employees toward automation and toward the very process of change? Third, how does automation affect the role of work in the lives of the employees?

One can readily appreciate the fact that the problems associated with the change over to automation will never be anchored, but changing in a continuing process related to shifting environmental and social patterns. The one aspect remaining unchanged, however, will undoubtedly be the fear associated with attempts to solve these problems.

SENSITIVITY OF THE WORKER

The worker at home. The working man spends approximately 75% of his time away from his place of work. His formative years are, of course, away from work and to a large degree determine his ability to maturely respond to any uncertain change.

He may fear social isolation as a possibility in an automated work environment and in his retirement years due to a decrease in work-related acquaintances. One study dealing with the attitudes of workers transferred to an automated automobile engine plant revealed that with the new technology, the distance between work stations was increased, the amount of machine noise was increased and the attention required was increased. This resulted in decreased conversation between the workers and fewer friends made at work.[7]

Perhaps a fruitful approach would be to select more carefully the work force and encourage management to alter some areas such as job rotation, etc. to facilitate adjustment to automation.

The Meaning of Work. Work has been related to punishment in our culture. Solomon[8] says that "There has developed in our culture too great a dichotomy between work and play. Instead of the concept of work as being an activity having the potential of pleasure-giving, there has accrued a concept of work as punishment." Freud[9] mentions that although work attaches the individual firmly to reality, this is not highly prized as a path to happiness, thereby raising difficult social problems because of the feeling of working under the stress of necessity.

These social problems might well be reinforced by frustrations from workers confronted with automated procedures. Other than an examination of theories concerning the psychologic nature of work and play, little can be written concerning the relationship between automation and the meaning of work owing to the sparcity of discernable dimensions.

Family considerations. The employee may suppress his feelings at his place of work, but may react to a change at work in his home where the suppressing forces are not as great.

Brill[10] writes, "How much responsibility industry should take for the mental health of its employees is a question that deserves further study." *The Journal of the American Medical Association* editorially comments,[11] "Many industrial physicians and psychiatrists believe that a competent examination of the total clinical picture rarely substantiates the claim that external stress from work situations is more than a secondary, uncovering or releasing factor. Even when a preexisting personality difficulty is recognized or acknowledged, there still remains considerable question as to the degree of etiologic importance ascribable to superimposed extra psychic influences. Judgment concerning the issue of aggravation should, therefore, rest on at least these three contributing factors: the degree of preexisting personality disturbance, the extra occupational stress and the objective and/or subjective reaction to stimuli from the occupational environment, whether acute or cumulative."

Although the contributing factors are difficult to delineate and subject to controversy, we are still faced with the disturbed employee in industry and a chance to practice preventive psychiatry in an increasingly automated world. A few of the larger industries with full-time psychiatrists and case workers have developed excellent programs for handling these problems, but the majority of the workers in U. S. industry have limited access to such services. An interested part-time or full-time occupational physician can provide counsel to the employee and his family and interpret the resultant anxiety from the change over to automation. If the problem is such that it can be handled without psychiatric referral and involves family disharmony, there are the nonsecretarian family service agencies or religious-affiliated agencies that might contribute to reducing job related anxieties affecting family harmony.

Leisure time. With increasing automation, the worker is aware that the average work week in U. S. industry will drop steadily. He also realizes that earlier retirement with pension plans are byproducts of an automated age. He might begin to feel that automation is an infringement upon his sense of achievement at work and wonder if he is casting aside his responsibility to our culture. Thus, he fears leisure by acting as a member of our society frowning on unobligated time.

When the working hours become decreased in the proportion of time required in a man's life, other activities not related to work will increase in importance. It also is felt by some authors[12] that, irrespective of the effect of automation on the content of jobs, automation might result in an increase in the significance of work in our society if it increased the proportion of the labor force employed in more skilled, responsible jobs with prestige. They further point out that the primary effect of automation upon occupational distribution undoubtedly will be to decrease the proportion of semiskilled and unskilled factory operatives. A majority of the new workers who otherwise might have been employed as operatives will be absorbed into enlarged clerical, sales and service occupations.

Hopefully for the skilled and unskilled workers alike, activities other than work will give meaningful experiences to the individual in the future, and the community will begin to accept the individual without the high premium on work.

THE WORKER AT WORK

Effect on the Individual

Resistance to change. Men both want and fear change. Thus, the conflict begins before automation is placed in the new environment. The worker may view this as an opportunity existing for self-actualization, a yet loosely defined term meaning to more fully use and exploit one's talents and potentialities. He also may view this as a means for losing his security and self-esteem. Mann[13] points out that change implies the overthrow of tradition, the relinquishing of patterned ways of doing things and trading predictable and secure environments for ambiguity and uncertainty.

How does the individual deal with this conflict? Various attitudes can be assumed by the worker. One such attitude is in the form of hostility, openly or implied. The hostility can be directed against the change itself or against the management. He also may show his hostility by demonstrating resistance in the form of a feeble effort or by an attitude of time-serving obedience, thereby undermining the morale of the other workers.

Zander[14] suggests certain conditions conducive to resistance:

1. Resistance to change can be expected if the planned changes are not explained to the workers who are going to be influenced by the changes. The workers are reacting to incomplete information.

2. Resistance can be expected among those workers who see the change as an indication that they are doing a poor job or that they are losing a part of the power they previously controlled.

3. One can expect resistance to change in those workers sandwiched between opposing strong forces, such as the union and management forces. This resistance is formed mostly because of the frustration evolving from the conflict.

4. Resistance may be encountered if the

change is made on personal grounds, rather than impersonal requirements.

5. Resistance will be present if management abruptly changes the state of affairs and ignores the previously established work group patterns.

In studies to determine variables affecting response to change, Trumbo[15] found that employees who had better educations, obtained better scores on personnel tests, were freer from job anxieties and had benefited from past changes were more likely to indicate a readiness for change. Faunce[16] found that office employees with relatively high social status (from urban rather than rural backgrounds) and in high status positions in the organization were more likely to welcome change. These studies would indicate that those persons with the above characteristics more likely would have the ability to deal effectively with the change to automation, and that a positive attitude toward a change to automation probably is associated with a greater possibility of being involved in decision-making about change.

Creativeness. The worker in an automated environment well might feel further removed from the end product and, thereby, a less essential part of the unity of the end product. He may become less sensitive to his surroundings because of the lack of involvement of his perceptual powers with the machine and product. It becomes difficult for him to see, touch or handle a piece of work before him. He may begin to concentrate his creative efforts on other areas such as job enlargement or promotion undertakings, but develop fears that these areas are more limited with automation, and his creative efforts in these pursuits will be halted. Probably, this area more than any other requires management assurance.

Psychiatric considerations. Although individuals cannot be sharply divided into categories of "normal persons" and "psychiatrically-ill persons," those workers with emotional disorders might become more readily identifiable. Whatever the underlying precipitating event, the alcoholic, addict or sexual deviate may become more disturbed or may emerge unsuspected in a population within the work environment.

One study in an automated plant showed that because workers were required to pay closer attention to their work, were supervised more frequently by the foreman and felt a constant pressure to avoid machine breakdowns, they experienced greater mental fatigue and work tension.[17] In this context, it becomes extremely important that we understand and can generally separate the various influences affecting the worker. Unless we do, such diagnoses as transient situational personality disorders, true personality disorders, psychoneurotic disorders, psychophysiologic (autonomic and visceral) disorders and psychotic disorders may confront us faster than we can possibly handle them.

Effect on the Work Group

Group forces. As the new or transferred worker involves himself with work groups, he develops group-wide as well as individual concepts to deal with work experiences. Most members of this group feel satisfied with this cohesiveness and have no further goals. A few of the workers may be uncomfortable about the reduction in the labor force, the threat of reducing the size of the group, and the move away from the end product, and may command the group force to obstruct or delay the change over to automated procedures. The members who are not assertive come to fear the group criticism and their attempts to exert pressure to change the direction of the group become minimal.

Trumbo[18] found that the attitudes of work groups were similar to those of their supervisors. Thus, it is important that we understand the attitudes of the supervisors when a change over to automation is anticipated.

Communication. Man communicates as a result of an interaction between the biologic-physiologic substrate of the individual and the culture in which he develops and matures.[18] This communication process involves positive or negative feelings in varying degrees, and these feelings are communicated in human interactions. Massarik and Weschler[20] write that "social perception" is a means by which persons form impressions of and, hopefully, understand one another. They point out that there are three basic aspects of social perception that must be considered:

1. The perceiver, the person who is "looking" and attempting to understand.

2. The perceived, the person who is being "looked at" or understood.

3. The situation, the fatal setting of social and nonsocial forces within which the act of social perception is lodged.

This normal method of communication need not be limited to single individuals and, indeed, can form a basis to use when enlarging one's concepts to include group phenomenon, although group phenomenon has unique problems in addition to problems evolving from interpersonal communications. Of considerable importance is

(Continued on page 716)

JACOB KULOWSKI, M.D., ***St. Joseph***

Subdural Rupture of an Intervertebral Lumbar Disc

Case Report

Case report of a subdural rupture that simulated a root tumor and one cogent reason for recurrent symptoms after a long period of relief from "sciatica." The author points out that the diagnosis will be missed without an adequate laminectomy and exploration of the subdural space. Doctor Kulowski is in the private practice of orthopaedic surgery.

SUBDURAL RUPTURE OF LUMBAR NUCLEAR MATERIAL is not rare as a cause of recurrent painful symptoms in discogenic backs after conservative or operative methods of treatment. In either case, diagnostic, therapeutic problems and problems of evaluation in industrial cases are increased. The subdural condition must be recognized by the operating surgeon and differentiated from tumor on histological grounds.

CASE REPORT

A 35-year-old man was forcibly bent over in an industrial accident and experienced immediate severe low back pain and right "sciatica." Pain subsided and there was no loss of time from work. During the following six months, he had two additional similar attacks. Physical examination then was essentially negative. X-rays showed a slight narrowing of the lumbo-sacral intervertebral space. Pantopaque myelography showed a slight deformity of the pantopaque column which was considered to be insufficient to warrant exploratory laminectomy (Fig. 1). He then was relieved of pain during the following three years. During the next two years, he had recurrent bouts of pain suggestive of ruptured intervertebral disc. His compensation claim had been settled on the basis of the relatively negative myelogram.

Suddenly, more than six years after onset of his painful symptoms, he was forced to his bed by severe back and right leg pain (he had worked on all previous occasions). At this time, physical examination showed lumbo-sacral mid line tenderness, muscle spasm with limited flexion and extension, production of pain on right straight leg raising, diminished right tendo Achilles reflex and a narrow band of hypesthesia at the lateral border of the right ankle. Pantopaque myelography now showed a defect at the lumbo-sacral interspace on the right side consistent with a herniation of the disc (Fig. 2). The protein content of the spinal fluid was not, however, appreciably elevated above the normal.

Through an interlaminar approach, a herniated right lumbo-sacral disc was removed without prob-

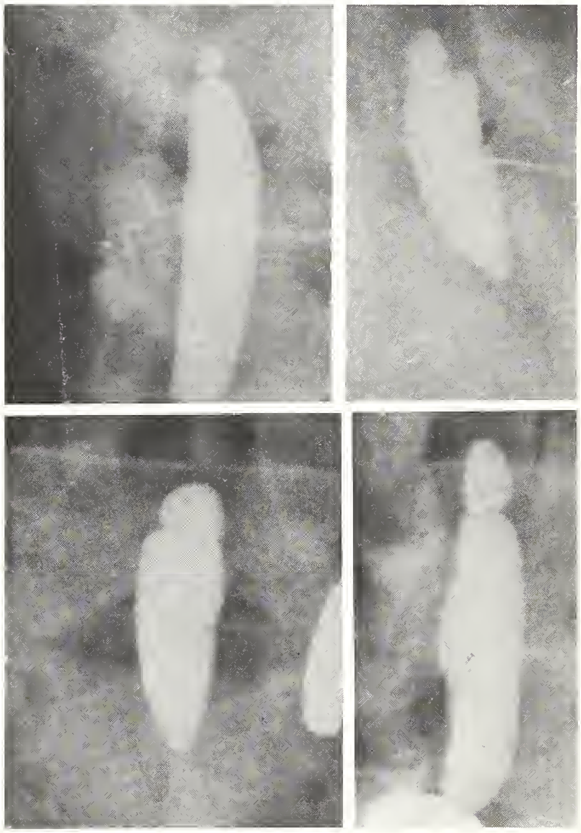

Fig. 1

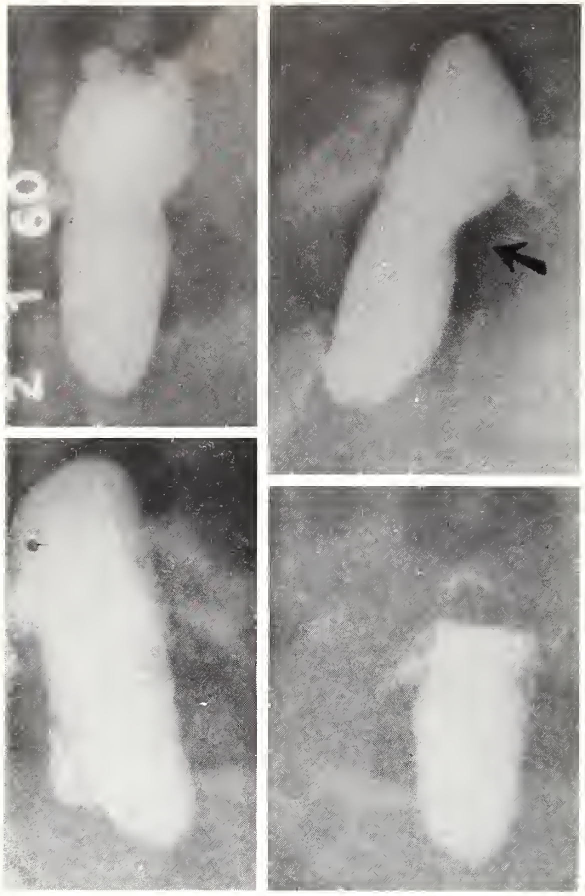

Fig. 2

lems. Because the disc material was *not* "sequestrated" as was to be expected after so long an interval after onset, but was rather firm in consistency, a more extensive laminectomy disclosed what appeared to be a tumor mass that was firmly adherent to the adjacent nerve root. In dissecting and freeing this mass, it was necessary to incise and enter the subthecal space in order to completely remove the "tumor." At no point was the "tumor" attached to the disc itself. Both tumor and disc material were clearly tagged for pathological examination.

The tumor measured 18 × 12 × 9 mm, was firm in consistency and grey. Microscopic examination showed it to be degenerated *nucleus pulposus*. The microscopic examination of the gross disc material was identical.

The man made a good recovery and returned to work. He continued to have slight residual weakness of the gastrocnemius muscle and mild hypesthesia of the lateral border of the right foot. Neither residuals were incapacitating. His claim for a higher compensation rating was denied.

COMMENT

Discrete fragmentation of nuclear material with subdural intrusion and separation as a distinct clinical entity can occur. The diagnosis will be missed unless an adequate laminectomy and exploration of the subdural space is done, especially in secondary operations or operations done after a long period has elapsed after onset. Similar further exploration seems indicated in any case where the disc pathology noted at operation does not explain the clinical condition for which operation had been undertaken. The exact sequence of events in this case must remain speculative. Also, perhaps, there may be need for revision of compensation laws in such cases.

Fear of Automation (Cont'd.)

the understanding of the worker's fear of decreased communication in an automated environment: his fear of isolation from "social perception."

SUMMARY

The "automated age" is upon us and, as with everything new, some hesitate to enter emotionally this age because of great uncertainty which confronts us. The worker solves this conflict in a manner acceptable since primitive times, that being fear. This fear is expressed in various ways in his home and work existences.

Members of the work environment both want and fear automation. A thorough study of the worker in an automated age, in relation to individual and group dynamics is needed to swing the pendulum away from that primitive safeguard—fear.

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(Continued on page 719)

JOHN SOMERS, M.D., ***Columbia***

Recurrent Stroke Associated With the Use of Synthetic Steroids

Case Report

Widespread recent use of oral contraceptive medications of the synthetic steroid variety in recent years has been followed by reports of possible medication induced thromboembolic disease. While the incidence of thrombophlebitis and pulmonary embolism cannot be shown to be significantly increased in patients receiving oral contraceptives,[1] cerebral thromboembolism has not been investigated to the same degree. A number of case reports has appeared suggesting a relationship.[2-8] The case reported here is of interest because of recurrent disease when oral contraceptives were resumed after initial clinical and electroencephalographic improvement. Further, a predisposition to thrombotic damage was present in the form of an old, traumatic and previously silent thrombosis of the left internal carotid artery.

Case Report

On Oct. 20, 1965, a 28-year-old caucasian female was admitted to the general medicine service of the University of Missouri Medical Center with the following history:

For several months, she had noted recurrent headaches about the left eye, usually relieved by aspirin. Six months prior to admission, she had had an episode of dizziness with unsteadiness of gait and was treated for an inner ear infection. These symptoms cleared promptly but recurred 10 days before admission recurred. Five days before admission, she developed severe headache and, in the afternoon, had difficulty understanding speech and speaking. Her memory was impaired. She was hospitalized at a local hospital and, during the next several days, had recurrent brief episodes of vertigo and fluctuating dysphasia. As additional history of significance, her son had a ventricular septal defect (repaired one year previously) and, at age nine she was hit by an automobile and thrown against the curb hitting the left side of her head and neck. She was not unconscious and had no neurologic sequelae. She had been receiving Enovid for three years with the exception of a brief period in late spring of 1965.

On general examination, the blood pressure was 110/68 and the pulse was 74. No cardiac abnormalities were found. Neurological examination revealed mild confusion, expressive dysphasia, mild receptive dysphasia and apraxia. There was a minimal right hemiparesis. Sensation could not be evaluated in detail. Cerebellar tests were normal. Station and gait tests showed decreased arm swing and mild circumduction. Tendon reflexes were slightly increased on the right. No abnormalities were found on the left side. Skull films and lumbar puncture were normal. All laboratory studies including blood count, sedimentation rate, urinalysis, serologic test for syphilis, serum proteins, blood glucose, "LE" preparation and urine amino acid pattern were normal. Electrocardiogram was normal. An electroencephalogram (Fig. 1) showed marked left sided slowing.

Left carotid angiography was carried out the next day and revealed complete occlusion of the left internal carotid artery. Intracranial filling, via the ophthalmic artery, was present with normal posi-

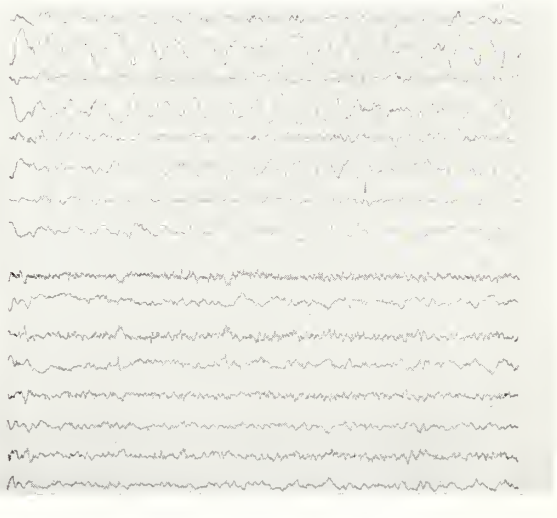

Fig. 1 (Top) The initial tracing on Oct. 21, 1965 shows marked slowing over the entire left hemisphere. Fig. 2 (Bottom) A follow-up tracing on Jan. 5, 1966, shows marked improvement with near normal rhythms.

In recent years, reports of some 30 cases of cerebrovascular disease in young women have suggested a possible relationship to oral contraceptive medications. The author describes a case report in which two vascular accidents occurred in a 28-year-old woman with an old, and probably traumatic, left internal carotid artery thrombosis. Both developed while she was receiving the synthetic steroids for contraception control. The author is Associate Professor of Neurology at the University of Missouri Medical Center.

tion of the anterior and middle cerebral arteries and their branches. Ten per cent CO_2 inhalations and cyclandelate 200 mg every six hours were begun. Considering the patient's age and fluctuating course, an attempt at thromboendarterectomy was believed advisable and was carried out that afternoon. A fibrous "plaque" was found in the left internal carotid above the bifurcation and this tissue was removed cephalad for 2 cm. However, it extended superiorly as far as the artery could be observed and no backflow was obtained. Three lymph nodes in the area were removed. The lymph nodes removed showed a normal morphology without evidence of neoplasm or inflammation. The tissue removed from the left internal carotid artery was fibrous with areas of focal hemorrhage and areas with fragmented internal elastic membrane. Other areas were myxomatous in appearance. Pigment-containing macrophages were present in the tissue. No cholesterol clefts were present.

Following surgery, the above treatment was continued and the patient showed some improvement in the apraxia and dysphasia. Nine days postoperatively, thoracic aortogram and selective innominate and right carotid angiogram were carried out via femoral catheterization. The left vertebral artery was markedly hyperplastic, the right vertebral artery was hypoplastic; the left internal carotid artery was occluded with a fine thread of lumen present for only a short distance above the bifurcation; the right internal carotid artery was smaller than usual. Films of the intracranial vessels revealed the main blood supply to both hemispheres to be from the left vertebral via the basilar and posterior communicating arteries. Conservative treatment was continued and speech, occupational and physical therapy were given with slow improvement. On Nov. 8, the patient was discharged to continue these therapies in her home community.

Follow-up visits in December and early January revealed steady improvement clinically, though headache was still present. Anticoagulation was recommended and begun in December with levels of prothrombin activity, about 40% being well maintained on Panwarfin. An electroencephalogram in January showed significant resolution of the previous changes (Fig. 2). In late December, "C-Quens" were begun to replace Enovid. On follow-up visit on March 1, the patient noted that the headaches had continued to resolve and her speech and apraxia had continued to improve. However, two days before, she had begun to drop objects from her left hand, had had transient episodes of paraesthesia in the left hand and had had brief jerking movements of the thumb or first digit. Neurological examination revealed a very mild right hemiparesis with minimal apraxia and mild expressive dysphasia. There were increased reflexes on the right and, also, in the left leg. Sensory examination was normal. An electroencephalogram showed slowing in the right anterior quadrant (Fig. 3).

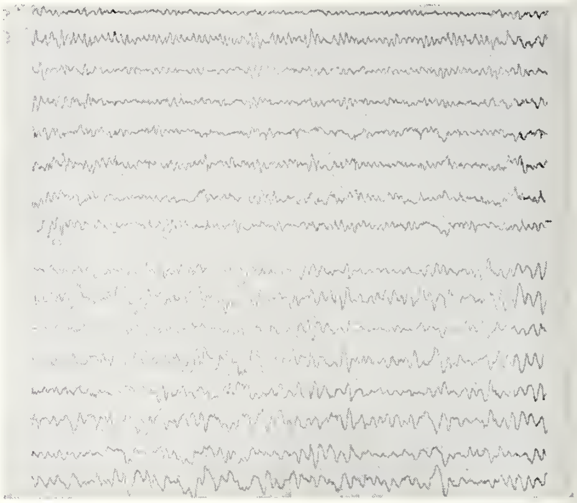

Fig. 3 (Top) March 1, 1966, two-and-one-half months after resuming synthetic steroids, the tracing shows marked deterioration with significant right-sided slowing present. Fig. 4. (Bottom) A fourth tracing two months later (June 7) after no further steroid, again shows definite improvement.

Vasodilators and anticoagulation were continued at prior levels and the C-Quens were discontinued. On examination in June, the patient was asymptomatic. She had had no further left-sided symptoms beginning five days after the steroid was discontinued. Neurological examination revealed no changes from those recorded previously on the right, but the left leg again showed hyperactive reflexes with clonus at the ankle. No Babinski sign was present. An electroencephalogram showed marked improvement (Fig. 4). Since that time, the patient has continued well with the residuals of her strokes unchanged.

Discussion

Reports of some 30 cases of cerebrovascular disease in young women have suggested a possible relationship to oral contraceptives. All have relied on the relative rarity of this disorder in young women without vasculitis, cardiac disease or diabetes. Illis and co-workers reviewed all angiographically proven cases seen at the National Hospital in London between January 1955 and June 1965. There were 39 cases in females between the ages of 18 and 45; 21 occurred prior to the introduction of oral contraceptives, 18 after. They were unable to demonstrate an increase, and could draw no definite conclusions in view of the small number of cases.[9] A randomized prospective study would be most desirable to obtain valid statistical data. However, recurrence of a disorder following re-exposure to a possible etiologic agent with resolution upon removal of that agent is strong evidence for such an etiologic relationship. In this instance, the relationship of the second episode to re-administration of the steroid with clearing and lack of further episodes following removal of this agent suggests the steroids was causally related. Treatment with vasodilators and then anticoagulation was well established by late December, and her course was one of consistent clinical improvement until two months after the synthetic steroid was resumed. Following its removal, without change in treatment, her course was again one of improvement without further episodes.

That cerebral damage occurred is obvious. It is less certain that the disorder was actually thrombosis in the absence of angiographic or pathologic demonstration of one or more occlusions. The clinical course and the pattern with initial damage in the area supplied by the left middle cerebral artery and later damage to structures supplied by the right middle and anterior cerebral arteries are consistent with thrombosis. Atherosclerotic change was not present in the surgical specimen and there was no clinical, pathological serological, or chemical abnormality to suggest that a vasculitis or homocystinuria was present. That the left internal carotid artery thrombosis was old is established by the pathologic findings. Certainly the carotid damage placed her cerebral circulation in a marginal status, yet this was asymptomatic until the steroids were administered.

That such traumatic occlusions may be asymptomatic and well tolerated is well known. The long term effects, however, are not clear. It has been suggested that patients with carotid ligations for internal carotid artery aneurysms have a much higher than usual incidence of thrombotic disease.[10] It is probable that this made the patient more susceptible to any vascular damage or clotting abnormality induced by the oral contraceptive. In this context, it is of considerable interest that the second occurrence developed while she was adequately anticoagulated.

Summary

Two vascular accidents occurred in a 28-year-old woman with an old and probably traumatic left internal carotid artery thrombosis. Both developed while she was receiving synthetic steroids for contraception control, and the development of the second, after resuming the drugs with clearing of fluctuating symptoms on cessation of the drug, suggests an etiologic relationship.

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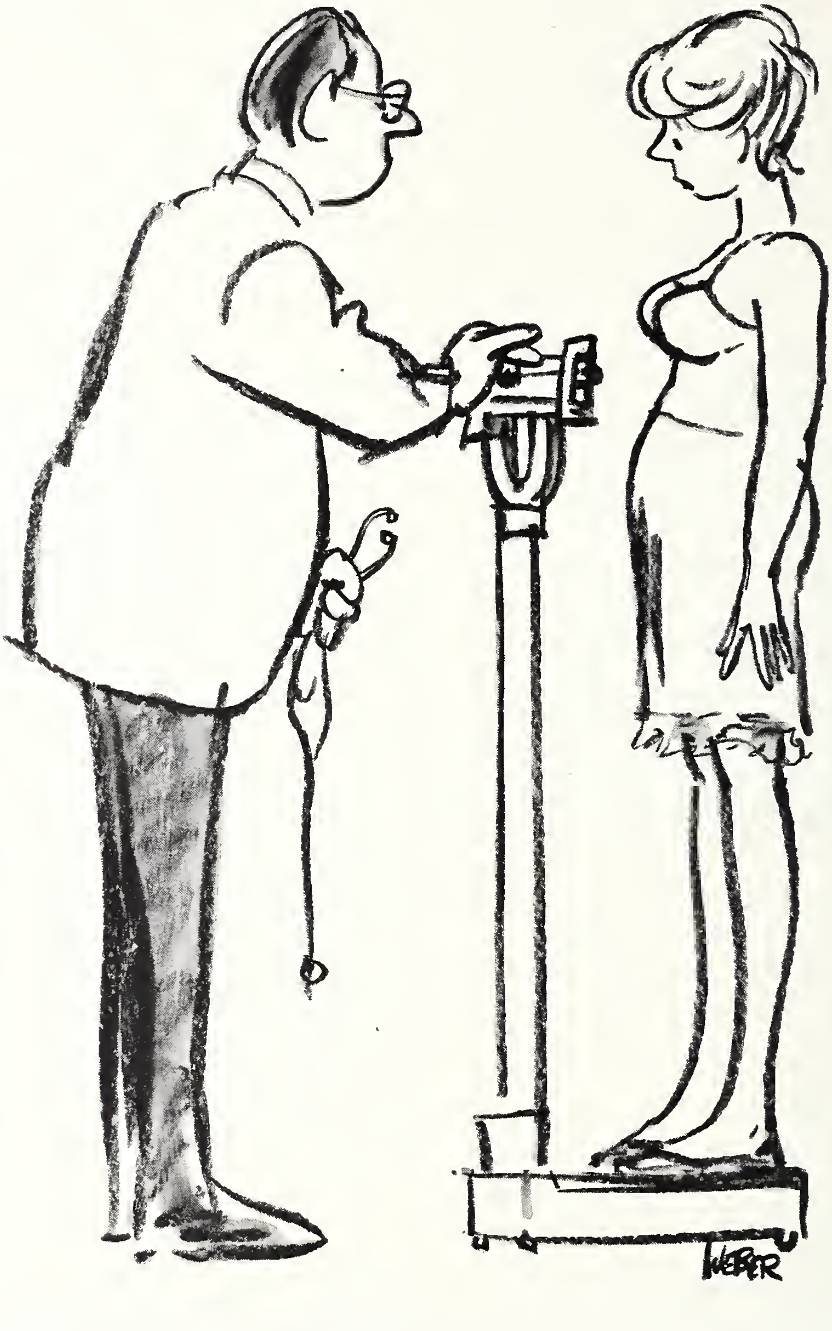

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Meprobamate: Drowsiness may occur and can be associated with ataxia; the symptom can usually be controlled by decreasing the dose, or by concomitant administration of central stimulants. Allergic or idiosyncratic reactions: maculopapular rash, acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever, transient leukopenia. A case of fatal bullous dermatitis, following administration of meprobamate and prednisolone, has been reported. Hypersensitivity has produced fever, fainting spells, angioneurotic edema, bronchial spasms, hypotensive crises (1 fatal case), anuria, stomatitis, proctitis (1 case), anaphylaxis, agranulocytosis and thrombocytopenic purpura, and a fatal instance of aplastic anemia, but only when other drugs known to elicit these conditions were given concomitantly. Fast EEG activity, usually after excessive dosage. Impairment of visual accommodation. Massive overdosage may produce drowsiness, lethargy, stupor, ataxia, coma, shock, vasomotor and respiratory collapse.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

Nearly 200 physicians, dentists, their wives and guests attended the 15th consecutive annual joint meeting of the Buchanan County Medical Society and the Northwest Missouri District Dental Society in St. Joseph. A dinner preceded the program. Speaker for the event was Michael E. De Bakey, M.D., Houston, Texas. Dr. De Bakey heads one of the largest cardiovascular centers in the world at Baylor University. He gave an outstanding paper on "Valvular Heart Disease, With Surgical Approach," which he illustrated with excellent slides and a film on "Cardiovascular Surgery."

Presiding jointly at the event were Dr. Irwin I. Rosenthal, President of the Medical Society, and Dr. Mortimer Rosenthal, President of the Dental Society. Dr. Irwin is the uncle of Dr. Mortimer Rosenthal. Dr. Edward M. Beheler introduced Dr. De Bakey. Arrangements for the dinner and meeting were made by the program committees of the two societies. Dr. R. Philip Acuff, Chairman, working with Dr. Carlyn M. Kline and Dr. Ernest E. Weinand for the Medical Society; Dr. Robert K. Bridwell and Dr. Henry W. Fricke for the Dental Society. Dr. Charles R. Willman made arrangements for Dr. De Bakey's appearance in St. Joseph.

Maxwell Day, M.D., *Secretary*

Grand River Medical Society

Forty members and guests of the Grand River Medical Society and Auxiliary met in Chillicothe on May 11.

Dr. Gerard Van Leeuwen, Professor of Pediatrics at the University of Missouri Medical Center, gave a very interesting and practical discussion of "Respiratory Distress Syndrome in the Newborn." Mr. Thomas Fisch from Blue Cross-Blue Shield in Kansas City then discussed a proposed health insurance policy which pays usual fees instead of fees fixed by the Company. This provoked much discussion.

Dr. Glennon Horner of Marceline, President of Grand River Medical Society, who returned to the University of Missouri to start a residency in anesthesiology on July 1, turned over the President's gavel to Dr. Leonard Fair of Chillicothe, who was First Vice President.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The May meeting of the Lafayette-Ray County Medical Society was held on May 9 at Lexington with 24 members and guests present.

After dinner, the program was turned over to Miss Catherine King, Extension Home Economist from Higginsville, and Mrs. Duffet, County Welfare Nurse, who discussed with the doctors a program to be set up for education of expectant mothers, if approved by the Lafayette-Ray Medical Society. The course consists of six meetings with expectant mothers. The objective of the program would be to try to help the expectant mothers to further understand human reproduction, to be aware of the preparation for the baby, to understand the importance of prenatal care, to alleviate fears and misunderstanding about labor and delivery and to teach care for the infant following delivery.

Following the discussion, a short business meeting was held with President William LaHue presiding. The meeting was adjourned.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

The West Central Missouri Medical Society met in Butler on June 8. A social hour and dinner preceded the scientific meeting.

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The meeting was called to order by the President of the Society, Doctor Eklund. The customary procedure of having the scientific presentation before the business session was followed. The scientific presentation was a discussion by Dr. Charles K. Whittaker, neurosurgeon from Kansas City. Doctor Whittaker discussed "Neurological Problems and the Examination of the Patient." It was a very thorough and very instructive meeting.

Following the scientific session, there was a brief business meeting. The minutes of the previous meeting were read and approved. The Society voted to disband for the months of July and August and to reconvene in Nevada, Missouri, for the meeting with the coaches. There being no further business, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

NINTH DISTRICT

COUNCILOR
E. A. STRICKER, ST. JAMES

Mid-Missouri County Medical Society

The members of the Mid-Missouri Medical Society and their wives met on June 29 in Rolla. The speaker was Dr. Gaddo Onesti of the Department of Internal Medicine of Hahnemann Medical College who spoke on "The Management of Hypertension." Three new physicians were elected to membership. They are Samuel Byland, M.D., Louis A. Bealer, M.D. and Jim C. Porter, M.D.

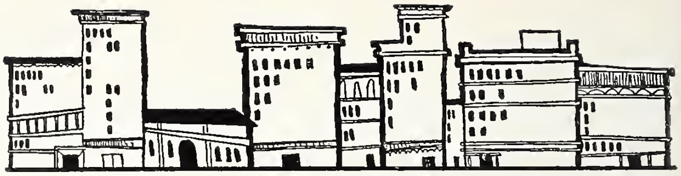
Barbara E. Russell, M.D., *Secretary*

Continuing Education Coming Events

Sept. 25-27	**45th Annual Fall Clinical Conference** Kansas City Southwest Clinical Society Hotel Muehlebach, Kansas City (acceptable 24 hours, AAGP credit)
Oct. 4-5	**Annual Midwest Interprofessional Seminar** **on Diseases Common to Animals and Man** University of Missouri, Columbia
Oct. 27-28	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Oct. 20-22	**19th Annual Scientific Assembly** Missouri Academy of General Practice Tan-Tar-A Resort, Osage Beach

NOTICE: Presidents, Secretaries, Public Relations Chairmen and Executive Secretaries of component medical societies! Mark your calendars NOW. Save Saturday and Sunday . . . November 4 and 5 . . . for a meeting which you won't want to miss. Featuring a program designed specifically for *you* and *your medical society*. Details . . . ? They're coming! ! !

From the Medical Schools



WASHINGTON UNIVERSITY

Michael Jacobs, a St. Louis graduating senior who was awarded the Alpha Omega Alpha Prize for the highest four-year academic average, also received the Missouri State Medical Association Award of a U. S. Savings Bond. He was one of seventy-six seniors who were honored at the annual Senior Awards Night in the St. Louis Medical Society Auditorium.

Dr. Carl V. Moore, Busch Professor and head of the department of internal medicine, has been elected a fellow in the American Academy of Arts and Sciences. Dr. Moore was among 91 distinguished Americans elected this year to fellowship. He is an internationally known authority on nutrition and hematology and has published numerous articles in professional journals. A former dean of the Medical School, he has been a member of the faculty since 1935.

Washington University School of Medicine has received an award of $248,961 as first installment of a five-year grant of $1,107,787 for alcoholism research and research training. The grant is the first such award to be issued by the National Institute of Mental Health's newly established National Center for Prevention and Control of Alcoholism. Dr. Samuel B. Guze, professor of psychiatry and associate professor of medicine, is principal investigator for the grant.

Dr. Melvin L. Goldman, a St. Louis internist, has been named president-elect of the Washington University Medical Alumni Association. Dr. C. Read Boles, St. Louis pediatrician, will serve as president of the 4,000-member organization for the coming year.

The School of Medicine has been granted $69,349 by the American Cancer Society for research into the causes and cure of this disease. The funds are part of $643,540 from ACS presently being spent for research on Cancer in Missouri. Dr. Ruth Silberberg, associate professor and director of diseases of bone and joint, Department of Pathology, and Dr. Oliver H. Lowry, professor and head of the Department of Pharmacology, are recipients of the new grants.

High awards from the American Endocrine Society and the American Diabetes Association have been received by Dr. David M. Kipnis, a Washington University School of Medicine researcher. This is the first time one person has won both prizes in the same year.

Dr. Kipnis, professor of medicine and co-director of the division of endocrinology and metabolism, was honored with the Ernst Oppenheimer Memorial Award and $2,500 which is sponsored by the Ciba Pharmaceutical Company. He also was awarded the 1967 Lilly Award of the American Diabetes Association which is accompanied by $1,000 and a medal. It is sponsored by Eli Lilly and Company.

Dr. Walter C. Bauer, associate professor of pathology, has been elected chairman of the Washington University School of Medicine Faculty Council. This organization is composed of professors, associate and assistant professors holding tenure appointments.

Dr. Minot P. Fryer, professor of clinical surgery, was elected president of the American Association of Plastic Surgeons at the annual meeting in Toronto, Canada. Earlier this year, he was elected vice-chairman of the American Board of Plastic Surgery, having served as secretary-treasurer of this board for the previous four years.

UNIVERSITY OF MISSOURI

Blair R. Behringer, who served this past year as national president of the Student American Medical Association, was named winner of the Missouri State Medical Association Award to the outstanding graduate of the Class of 1967 at the School of Medicine.

Before his term as president expired this spring, Behringer spent two months in Vietnam with an AMA-AID medical team. He was the only student included in this duty. Last fall, he received a $1,000 Pfizer Laboratories scholarship which is presented each year to an outstanding member of the senior class. He plans to intern at the University Medical Center next year before beginning a residency in surgery.

Dr. Berneil Andrews, a urologist from North Kansas City, has been installed as president of the University of Missouri Medical Alumni for a two year term. In addition to his private practice, he is senior attending urologist at the General Hospital's division of the University of Missouri in Kansas City.

Marking a major step forward in the growth and development of the Department of Psychiatry at the School of Medicine, the department recently received approval for a residency training program in child psychiatry. Under the direction of Dr. Fernando Tapia, associate professor and chief of the Child Psychiatry Section, the program was initiated with the acceptance of the first child psychiatry resident in July.

The Residency Review Committee for Psychiatry and Neurology and the Council on Medical Education approved the program for two years of training, on a provisional basis, in concurrence with a recommendation by the Committee on Certification in Child Psychiatry of the American Board of Psychiatry and Neurology.

Researchers at the University of Missouri, working with the world's only known herd of hemophiliac swine, report they have found a stimulating factor which promotes formation of a clotting factor. They are now making further studies to purify and concentrate the factor and measure its potential for correcting the basic cause of bleeding in hemophilia cases.

The study of therapeutic factors in a hemophilia-like disease is being continued with support of a $35,861 renewal grant from the Public Health Service for another year. The grant is the fifth by the Public Health Service for the University's long-term effort to determine the biochemical mechanism of blood coagulation and find a preventive of hemorrhage in hemophiliacs.

The School of Journalism has received a grant of $20,000 from the Alfred P. Sloan Foundation in support of Missouri's program in science writing. Dean Earl English said that although the funds are used primarily for graduate fellowships, the grant will make possible a visiting lecturer series, a new feature to be added to the program in the coming year. The objective of the program is to further public understanding of science. Information concerning the fellowships or the program in science writing is available from Dr. Joye Patterson, assistant professor of journalism, who coordinates the program.

ST. LOUIS UNIVERSITY

Lawrence J. Grace of Santa Clara, California, was the recipient of the Missouri State Medical Association's Award in recognition of outstanding achievement in the study of medicine and the 1967 Vesalius award for outstanding achievement in the study of anatomy at the School of Medicine's senior class day ceremony. Grace and Dennis M. O'Connor, valedictorian of the class, graduated magna cum laude at the University's commencement exercises on June 3.

John A. Dale, a freshman student at the School of Medicine, was recipient of an American Medical Association Goldberger research fellowship to support summer work to be directed by Sir Hans Krebs at Oxford University. Mr. Dale's research sponsor is Dr. Robert E. Olson, Doisy professor and chairman of the department of biochemistry at St. Louis University who was a Fulbright and Guggenheim scholar at Oxford University in Sir Hans Krebs' department from 1961 to 1962.

Sir Hans has been studying the enzymes which control gluconeogenesis in the kidney and liver. It is known medically that high protein nutrition increases gluconeogenesis in liver and that high carbohydrate intake decreases this process.

William J. Connelly has been appointed an assistant director of the St. Louis University Medical Center Campaign. His duties will include servicing volunteer lay leaders and working with Kenneth E. Cook, director of development and the Medical Center Campaign, on a program of deferred giving. Mr. Connelly formerly was director of development for Webster College, St. Louis. He also has served as director of news services for St. Joseph's College, Philadelphia, and as assistant director of development for King's College, Wilkes-Barre, Pa.

An optical laser, the first unit of its kind in the state of Missouri and one of 14 of its type throughout the nation, has been installed at the St. Louis University Hospitals. The addition to the department of ophthalmology's retina service is a unique advancement in retina surgery which will be used for the treatment of holes in the retina without detachment, inflammation of the retina and some degenerations of the retina. Because little or no heat is produced, no damage is done to the vitreous of the eye which is the jelly in front of retina and through which the light beam passes before it strikes the retina.

In Memoriam

Wilson, Stanley G., Jr., M.D., St. Louis, a graduate of Temple University, 1950; member of St. Louis Medical Society; aged 44; died April 29, 1967.

Chastain, Maurice W., M.D., North Kansas City, a graduate of Kansas University; 1933; member of Clay County Medical Society; aged 59; died April 30, 1967.

Wall, Albert, M.D., Cape Coral, Florida, a graduate of Washington University, 1922; member of St. Louis County Medical Society; aged 75; died May 2, 1967.

Foster, Howard M., M.D., St. Louis, a graduate of American Medical College, 1914; member of St. Louis Medical Society; aged 81; died May 14, 1967.

Heinbecker, Peter, M.D., St. Louis, a graduate of McGill University, 1921; member of St. Louis Medical Society; aged 73; died May 22, 1967.

Griot, Albert J., M.D., St. Louis, a graduate of St. Louis University, 1910; member of St. Louis County Medical Society; aged 83; died May 26, 1967.

Ford, Walter W., M.D., Gordonville, a graduate of the University of Tennessee, 1900; member of Cape Girardeau County Medical Society; aged 91; died May 31, 1967.

Raemdonek, Alphonse J., M.D., St. Louis, a graduate of St. Louis University, 1909; member of St. Louis Medical Society; aged 79; died June 1, 1967.

Sehmitz, Edgar F., M.D., St. Louis, a graduate of the University of Pennsylvania, 1912; member of St. Louis Medical Society; aged 79; died June 9, 1967.

Vezeau, Stephen, M.D., St. Louis, a graduate of American Medical College, 1914; member of St. Louis Medical Society; aged 87; died June 9, 1967.

Muench, Ludwig O., M.D., Washington, a graduate of Washington University, 1915; member of Franklin County Medical Society; aged 76; died June 15, 1967.

Meyerhardt, Milton H., M.D., St. Louis, a graduate of St. Louis University, 1927; member of St. Louis Medical Society; aged 64; died May 14, 1967.

Modlin, John J., M.D., Columbia, a graduate of the University of Nebraska, 1938; member of Boone County Medical Society; aged 52; died June 19, 1967.

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Dosage: 50-200 mg. (¾-3 grains) at bedtime.

[031767]

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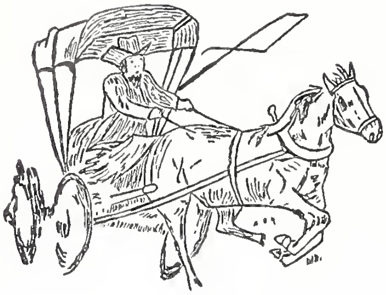
Missouri Medicine in Review



FORTY YEARS AGO

An amazingly convincing report of the finding of a possible etiologic agent for trachoma comes from that wonderful institute of research in New York, which was founded by the most enlightened philanthropist, Mr. Rockefeller. This work is from the master hand of Hideyo Noguchi, a name to reckon with in the field of experimental bacteriology. For a year and one half, Noguchi has been working without interruption on the problem of trachoma in our American Indians. He made public his discovery at the meeting of the Ophthalmological Section of the American Medical Association in Washington in May.

Dr. E. C. Ernst, St. Louis, was elected President of the American Radium Association for 1927-28 at the meeting held in Washington.—Dr. Hentry Muetze, St. Louis, sailed for Europe to attend the celebration of the 450th anniversary of the University of Marlburgh where he received his early education and later took postgraduate courses in medicine.—Dr. Katharine B. Richardson, co-founder of Mercy Hospital in Kansas City, was selected by the Business and Professional Women's Clubs of Missouri as the oustanding professional woman in the state at the celebration of the founding of Mercy Hospital.

TWENTY-FIVE YEARS AGO

The Dallas-Hickory-Polk County Medical Society met in Buffalo. Dinner was served at the Williams Cafe at 7 PM. The scientific session was held in the office of Dr. G. C. Plummer. The following were present: Drs. G. G. Robertson and A. J. Stufflebam, Humansville; C. H. Brown, Fairplay; J. T. Roberts and D. C. McCraw, Bolivar; T. D. Wrinkle, Halfway; L. A. Glasco, Urbana; V. H. Greenwood and G. C. Plummer, Buffalo. Dr. C. Souter Smith, Springfield, spoke on "Chemotherapy." Dr. Smith detailed the use of sulfa drugs in various diseases with a note of warning to watch for reactions that may accompany their use. Dr. Wallis Smith, Springfield, presented a paper on "Mortality in Appendicitis" in which he discussed the different schools of thought in handling cases at various stages.

The St. Francois-Iron-Madison-Washington-Reynolds County Medical Society met in the St. Francois County Courthouse in Farmington. Several reels of color films loaned by Eli Lilly Company were shown by Dr. Paul J. Schrader, Farmington. Members present were Drs. J. S. Thurman, Potosi; J. P. Yeargain, Irondale; Van W. Taylor and D. E. Smith, Bonne Terre; H. C. Gaebe, Desloge; R. E. Harland, Ironton; Rueben Appleberry, N. W. Hawkins, P. J. Schrader and C. C. Ault, Farmington.

TEN YEARS AGO

David B. Allman, M.D., President of the American Medical Association, writes about the doctor's reward. "He finds his compensation in those happy, shining moments in medicine when he sees the good he can do. For the sincere physician—for the real doctor—no amount of money, no amount of fame or publicity, no amount of professional eminence, no amount of mink coats and Cadillacs can buy that look on a mother's face when he can say, 'Your little boy will live and he will walk and play like other children' . . . that look on a husband's face when he says, 'Your wife is fine and the baby looks just like you!' . . . that look on a child's face when he can say, 'Your daddy is going to be all right.' These are among the elements that shape a doctor's heart and mind. Over the years, he realizes the vital, undeniable importance of the individual and of other basic values in medicine, such as ethics, the patient's freedom to choose his own doctor and the physician's freedom to employ his knowledge in the best interest of each patient."

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References:

(1) Siver, R. H.: CMD, *21*:109, September 1954. (2) Frykman, H. H.: Minn. Med., *38*:19-27, January 1955. (3) McGivney, J.: Tex. State Jour. Med., *51*:16-18, January 1955. (4) Quehl, T. M.: Jour. of Florida Acad. Gen. Prac., *15*:15-16, October 1965. (5) Weekes, D. J.: N.Y. State Jour. Med., *58*:2672-2673, August 1958. (6) Weekes, D. J.: EENT Digest, *25*:47-59, December 1963. (7) Abbott, P. L.: Jour. Oral Surg., Anes., & Hosp. Dental Serv., 310-312, July 1961. (8) Rapoport, L. and Levine, W. I.: Oral Surg., Oral Med. & Oral Path., *20*:591-593, November 1965.

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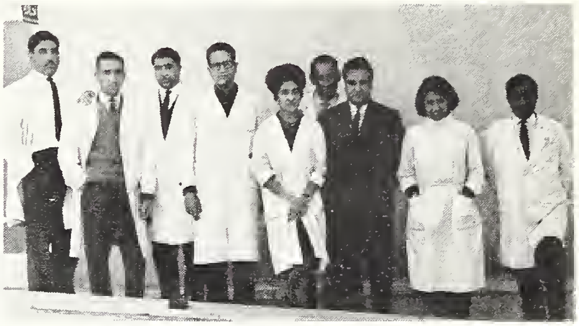
Afghanistan-Avicenna-Care-Medico

JOHN T. LOGUE, M.D., ***Columbia***

An invitation from *Care-Medico* and the miracle of jet age transportation whisked me into Kabul, the capital of Afghanistan, almost overnight. Mysterious, exotic Kabul is sprawled across a high plateau surrounded on all sides by snow capped mountain peaks and pinched in the middle by two large bare brown hills.

Each morning, swarms of people, bicycles, cars, trucks, busses, camels and donkeys flow along the dusty Kabul River road between these hills into the bazaars of Kabul. The river banks are crowded with people washing, drinking and sharing the delights of water with their weary animals. The Kabul River flows down from the mountains and soon becomes the polluted source of much disease, for those along the banks know little of sanitation and joyfully drink, bathe and excrete into this main stream of Kabul city life. Close by the river road and shielded somewhat by a high, mud brick fence just inside the old Kabul city wall (built to protect the old city from invaders) is the Avicenna Hospital where *Care-Medico* conducts its post-graduate training programs in anesthesia, surgery and medicine. The program is for those English-speaking Afghan doctors fortunate enough to be assigned to the Avicenna Hospital as resident physicians by the Afghan Ministry of Health.

A graduate of an Afghan medical school faces several years of involuntary army duty or service in the non-equipped provinces unless good family, good fortune or both intercede in his behalf. Post-graduate training in Western and Eastern Europe, Russia, Canada or the United States can be enjoyed by a selected few of means. This year, for the first time, three of five Afghan residents at the Avicenna Hospital passed the ECFMG examinations. If transportation funds can be found, they will travel to Saskatoon, Canada for advanced training in internal medicine sponsored by Dr. John Mowbray, the former Medico team captain at the Avicenna Hospital. These men will travel alone half way around the world, for their wives and children are not allowed to travel outside of Afghanistan. Perhaps in a year or two, one's wife and one half of one's children may join their husband and father far away. Afghanistan will not willingly become the victim of the so called "Brain Drain."



During his tour of voluntary service at the Avicenna Hospital, Doctor Logue taught electrocardiography to this group of Afghan medical residents. Very few residents are able to continue their training in major countries.

In Avicenna's courtyard, one pushes through a mob of patients and visitors waving bits of paper, which are orders for admission, X-rays, laboratory work or consultation. Several impassive soldiers guard the emergency room door. The smell of charcoal cooking fires, disease and unwashed bodies is overpowering. Baksheesh (money) can buy one's way through the guards and into the halls and wards. The filth tracked into the halls, wards and operating rooms defies description. The relatively low post-operative infection rate is surprising. Each room, each cabinet and each chest is locked to prevent pilferage. Needed supplies are safely locked up and often are not available. *Care-Medico* has many needed supplies on hand for emergency use. If the needed supplies fall in a category of supplies allegedly to be supplied by the Afghan government they are not used. Once *Medico* uses these supplies the Afghan Ministry of Health may refuse to supply these articles any longer. The permanent staff of the Avicenna Hospital becomes indifferent to this type of administrative frustration and, to survive, adopts the Moslem attitude emcompassed by the expression, "Inshallah" (God's Will), usually expressed with a shrug of the shoulders.

The Avicenna Hospital is old, ill equipped and plagued by faulty plumbing and erratic electricity. Despite the drawbacks, Avicenna shines like a beacon to the impoverised sick of Afghanistan, who travel from the far reaches of this rugged land to find succor and help within

The author describes his second experience* in voluntary service in an underdeveloped nation where overwhelming problems of infection, disease and inadequate health facilities plague the impoverished sick. As a Consultant for *Care-Medico,* he taught electrocardiography to the medical residents in the Avicenna Hospital in Kabul, Afghanistan. He speaks of the hope and accomplishments inspired by the volunteer, teaching physicians of *Medico,* the program that was started in 1958 by the late Dr. Thomas A. Dooley and Dr. Peter D. Comanduras. Doctor Logue is a specialist in internal medicine, a member of the staff of Boone County Hospital and the University of Missouri Hospital in Columbia and Consultant in Internal Medicine for the Missouri Crippled Children's Association.

its walls. The *Care-Medico* staff of nurses, technicians, physicians and surgeons work tirelessly with the Afghan residents to provide the finest, most compassionate care that can be provided by human heart and hand. In Afghanistan, human suffering from disease is commonplace and is accepted with uncomplaining dignity by the patients.

Tuberculosis seemingly is the greatest plague of this magnificant, dry, dusty, high-altitude country. The Afghan homes are small, poorly ventilated and overcrowded. Most of them are heated in winter by a central open fire. Cheese and meats covered with flies hang open in the bazaars. No pasteurization protects the young from milk-borne infection, and safe drinking water does not exist. Open cavitary pulmonary tuberculosis, tuberculous empyema, peritonitis, meningitis, constrictive pericarditis, renal and bone tuberculosis are common. Amebiasis, typhoid fever, cholera, smallpox, malaria and intestinal parasitism of all varieties are present, along with cor-pulmonale from chronic lung disease. There is enough rheumatic heart disease with valvular lesions of all types to satisfy even the most ambitious advocates of heart pumps, open-heart surgery and cardioversion for a lifetime. Such modern approaches to disease problems are impossible in Afghanistan. Massive echinococcal cysts of the liver, peritoneal cavity and lungs often appear at Avicenna.

The surgical service is swamped with emergencies, such as gastrointestinal hemorrhages, intestinal obstructions, intestinal perforations, peritonitis, appendicitis, ulcers and cholelithiasis. Bladder stones in pre-teen-aged boys without obstructive uropathy are very common. No plausible explanation for this situation has been forthcoming despite careful study by urologists, internists and metabolic specialists. Moslems neither drink nor smoke, yet cirrhosis of the liver and lung cancer are commonplace. The thoracic surgery performed at the Avicenna Hospital is amazing. Dr. John R. Hankins has dedicated his professional life to bringing the benefit of thoracic surgery to this land which seems to blossom with surgical chest disease. Pericardiectomy for tuberculous constrictive pericarditis is a common operation at Avicenna.

Cataracts, glaucoma and traumatic eye problems keep one full-time ophthalomogist busy and provide an additional full operating schedule for the visiting ophthalmologists who come in from time to time. Most touching is the memory of a big, bear of a man, Dr. Phil Winslow of Rochester, New York, bringing the miracles of modern reconstructive and rehabilitative orthopedic surgery to a backlog of unfortunate victims of poliomyelitis, previously untreated fractures and those afflicted by the ravages of tuberculosis of the bones and joints. Many of these patients have had treatment begun by a series of orthopedic surgeons before, and many Dr. Winslow treated will come again to the Avicenna Clinic and Hospital for further treatment by those othopedists who will follow in the months and years ahead.

The Afghan Ministry of Health recently has established a central blood bank to supply the blood needs of the many Kabul hospitals. When five pints of blood are needed, the staff is thank-

(Continued on page 739)

An Afghan kneels on the lawn in front of the Avicenna Hospital at Moslem prayer time in Kabul, the capital of Afghanistan. It was here that Doctor Logue spent a month as Consultant for *Care-Medico* and participated in the post-graduate training programs.

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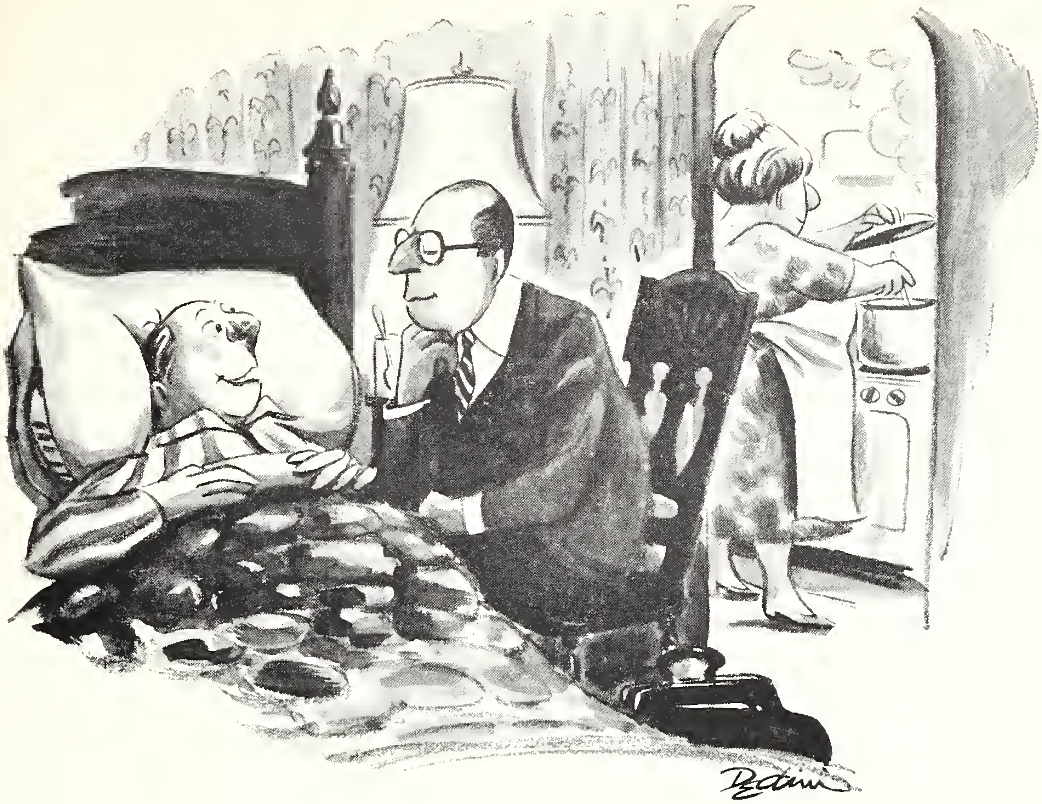
* An account of Doctor Logue's tour of voluntary service on the S.S. *Hope* in Nicaragua appeared in the October, 1966, issue of Missouri Medicine.



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Notes of interest from Here . . . . and There

Dr. James W. Colbert, Jr., former Dean of the St. Louis University School of Medicine, has been appointed Director of the Advanced Planning Staff in the Office of Program Planning and Evaluation, U. S. Public Health Service. At 32, Doctor Colbert became the youngest medical school dean in the country when he was appointed by St. Louis University. He served in that post from 1952 to 1961. In 1962, he joined the Public Health Service and has been Associate Director for Extramural Programs since 1964.

Dr. Dan L. Berger has been elected Chairman of the Board of the Planned Parenthood Association of Greater Kansas City. He has served with Planned Parenthood since 1949 as a clinician and, later, as a member of the Medical Advisory Committee, which he has chaired for the past two years. **Dr. Frank H. Hodgson,** Kansas City, will succeed Dr. Berger as head of the Medical Committee.

Dr. Kenneth D. Serkes, former Assistant Director of Surgery at the Jewish Hospital of St. Louis, is now Associate Professor of Surgery at the Temple University School of Medicine and a member of the Division of Surgery, Albert Einstein Medical Center in Philadelphia.—**Dr. Paul W. Herron,** who received his M.D. degree from Washington University, has been appointed Associate Director of Clinical Research of Winthrop Laboratories.—**Dr. C. J. Jansen, Jr.** has been named Senior Physician in the Medical Research Division of Eli Lilly and Company. He received his M.D. degree at St. Louis University School of Medicine.

John P. Cox, M.D., psychiatrist, has joined the staff of the Thompson-Brumm-Knepper Clinic in St. Joseph. For the past three years, Dr. Cox has been a resident in psychiatry at the Mayo Clinic.

The *ACOG Newsletter* reports that physicians have scored highest in a recent public opinion poll. A recent study by the Louis Harris Public Opinion Organization shows that 74% of Americans have "a great deal of confidence" in physicians, who received the highest rating received by any of the 17 professional groups listed. Some of the occupations and their "confidence sources" are as follows: Physicians, 74%; Bankers, 70%; Scientists, 66%; Military Leaders, 65%; Educators, 62%; Corporate Heads, 58%; U. S. Supreme Court Judges, 54%; Clergy, 45%; Congressmen, 44%; and Labor Leaders, 24%.

"I will never retire," said **Dr. Frank G. Mays** when he was interviewed on the eve of his 40th year as a surgeon in Washington by **Bob Hamilton** of the *Washington Missourian.* Dr. Mays has been that community's city health officer and city physician since 1928. Since 1955, he has been chairman of the University of Missouri Medical School Foundation which, he said, was the first in the world to be devoted exclusively to aiding medical students in their education. Dr. May was instrumental in efforts to build the University's four-year medical school and center and has received the University of Missouri's distinguished service award, one of only three awarded since the medical school's founding. He's planning a hunting pack trip in the mountains of Canada's Yukon territory for the fall of 1968.

Afghanistan (Cont'd)

ful to come up with one pint. A start has been made and the restrictions of tradition have been loosened a bit. The patient salvage rate should increase as greater supplies of blood accumulate and the use of blood becomes more common. The Afghan government now is producing its own supplies of sterile intravenous fluids.

In the Avicenna Hospital, inadequate radiological facilities and services are present, but they are superior to those in other Kabul hospitals. Each patient carries his own films tightly rolled up under his arm, that is, if he can afford to pay for them. Many of the films I saw were impossible to interpret, and often the chest films consisted of two sections. One was for the right chest, and the other for the left chest. Fluoroscopic examinations often are too delayed to be of any practical value either in diagnosis or treatment. Efforts at improving the Avicenna X-ray service have been frustrated by lack of funds, administrative indifference in the Ministry of Health and, down the line, by the classic Afghan alibis of *Inshallah* (God's Will) and *parwanese* (What difference does it make?).

The clinical laboratory service at Avicenna is very good and is improving as the Afghan-American counterpart teams strive to improve laboratory techniques. Undependable electric current in the past has prevented the use of a flame photometer. Lack of funds now prevents further upgrading of the laboratory services so desperately needed in the teaching of advanced medical, surgical and anesthesia techniques. No anatomical pathological services were available during my visit, so that several diagnostic problems were left to await the return from vacation of the one most competent in this field.

Drugs and medications are bought on the open market in Afghanistan. While some medications for hospitalized patients are available through the hospital pharmacy, quite often the patient or his family was required to buy needed medication in the bazaar before indicated treatment could be started. Hashish or cannabis is a money crop for Afghan farmers and is available along with opium, a derivative of the poppy. Drug addiction is not uncommon among the Afghans. Indeed, one mother smuggled hashish into her 11-year-old daughter undergoing treatment for a long neglected hip fracture. This youngster was always happy and seldom complained of pain or discomfort.

Bedside nursing care is inadequate in Afghanistan despite the valiant efforts at teaching by the American and Canadian Medico and Peace Corps nurses who toil tirelessly and thanklessly to impart their concern and compassion for the patients' welfare to the Afghan girls who enter nursing.

Three medical residents examine an asthma patient. In Afghanistan, human suffering from disease is commonplace. Impoverished Afghans travel long distances to the Hospital for medical treatment and help.

Dr. Paul Cutler, the *Medico* Team Captain, Dr. John R. Hankins and Dr. Bella Strauss were aided by a continuing stream of visiting specialists and have organized and carried out a superb post-graduate teaching program for the Afghan residents in anesthesia, surgery and internal medicine. Dr. Cutler recommends that a complete new medical center, medical and nursing school be constructed. This center should be staffed by Americans with Afghan counterparts working at all levels. This recommendation may not be unrealistic for the Afghans are ambitious, hard working and dedicated to catapulting their country from its medieval state into the 20th century rapidly. It is through education, self help and people-to-people contact that these ambitions may well be attained. The performance of Avicenna trained physicians and surgeons who now are beginning to return to Afghan practice well may decide the fate of this ambitious dream, shared by all those in the past, present and future who are fortunate enough to serve in the Avicenna Hospital for *Care-Medico*. *Medico,* now a function of *Care,* was started in 1958 by the late Dr. Thomas A. Dooley and Dr. Peter D. Comanduras to enable American and Canadian practicing physicians to contribute their skills on short term tours to help the underprivileged sick in the underdeveloped nations of the world. The advanced teaching program in the Avicenna Hospital is a marked contrast to the program of medical service to unfortunate war refugees first started by Dr. Dooley as a young U. S. Navy Lieutenant in Hanoi, North Vietnam, following the defeat of the French at Dienbienphu.

AHA Reports Increasing Hospital Expenses

Hospital expenses, especially payroll, are increasing at a rate more than double that experienced six months ago.

In the annual Guide Issue of *Hospitals*, Journal of the American Hospital Association, statistics gathered from the nation's 5,812 community hospitals show a total expense per patient day of $48.15 for the reporting year ending Sept. 30, 1966, or an increase of 8.3% over the previous year. Since the end of the reporting year, AHA's monthly sample of community hospitals, "Hospital Indicators," has recorded an increase of 8.5%, to $53 in hospital expense per patient day for the period from October, 1966 through March, 1967.

Edwin L. Crosby, M.D., director of AHA, said "Wage and salary increases in hospitals during this last half of the current reporting year (ending Sept. 30, 1967) are likely to continue at the October-March rate, which would result in an increase of at least 17% in total hospital expense per patient day for 1967."

Earlier this year, the AHA, in testimony before the House Ways & Means Committee, projected a total hospital expense per patient day figure of $57.93 by Sept. 30, 1967. This would represent an increase of 18.6% over the previous year.

The AHA 1967 Guide Issue reports total personnel employed in hospitals at a new high of 2,105,942 in the 7,160 hospitals registered by AHA. In the community hospital category, which includes 5,812 hospitals, the fulltime personnel totalled 1,532,443. Total personnel employed in all hospitals a year earlier was 1,952,383, and in the community hospitals 1,386,215.

While payroll and personnel were making unprecedented increases, other hospital areas—maternity and nursery—were experiencing another year of decline in activity. Continuing a trend which started in 1961, the nation's hospitals reported less births than the year before. In the AHA Guide Issue, the hospitals reported 3,385,113 births for the year ending Sept. 30, 1966. A year earlier, a total of 3,565,344 births were recorded by these hospitals. In 1960, the total births were much higher—3,835,735.

Outpatient visits to hospitals have been on the increase for the past two decades and the most recent report indicates a step-up in utilization of this hospital department. Total outpatient visits reached a new high of 142,201,126, an increase of nearly 41-million over the total of 101,238,607 a year earlier.

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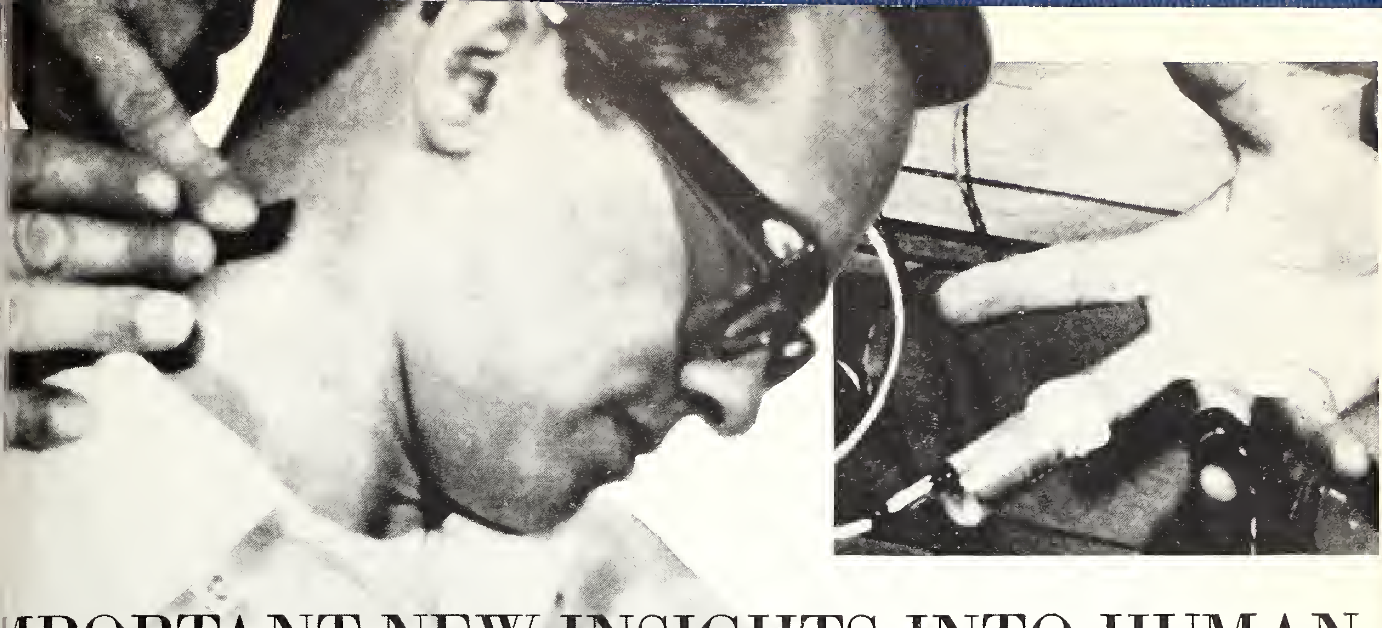

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New Members

Robert B. Adams, M.D., Medical Arts Bldg., Joplin, has become a member of Jasper County Medical Society. Dr. Adams is a native of Little Rock, Arkansas, received his preliminary education at Arkansas State and his M.D. degree at the University of Arkansas in 1963. He specializes in internal medicine.

Louis Allan Bealer, M.D., Harwood & Chestnut, Lebanon, has become a member of Mid-Missouri County Medical Society. Dr. Bealer is a native of Eldon, received his preliminary education at Westminster College and his M.D. degree at the University of Pittsburgh in 1956. He specializes in surgery.

Peter C. Boylan, M.D., 6307 Morningside Dr., Kansas City, has become a member of Jackson County Medical Society. Dr. Boylan is a native of Cleveland, Ohio, received his preliminary education at John Carroll University and his M.D. degree at St. Louis University in 1960. He specializes in orthopedic surgery.

Samuel S. Byland, M.D., 12 Thayer, Fort Leonard Wood, has become a member of Mid-Missouri County Medical Society. Dr. Byland is a native of St. Louis, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1960. He specializes in ophthalmology.

Gilberto Carmona, M.D., 8210 Montreal, University City, has become a member of St. Louis County Medical Society. Dr. Carmona is a native of Manila, Philippines, received his preliminary education at Santo Thomas University and his M.D. degree at Santo Thomas University in 1954. He specializes in pediatrics.

PRESCRIPTIONS
Bill O'Malley

"What can I W-O-W for you?"

J. Denis Catalano, M.D., Blue Spring Rd., Pensacola, Florida, has become a member of St. Louis Medical Society. Dr. Catalano is a native of Clayton, received his preliminary education at Washington University and his M.D. degree at the Medical College of Alabama in 1965. He specializes in pediatrics.

Charles W. Cooper, M.D., 423 Cherry, Jefferson City, has become a member of Cole County Medical Society. Dr. Cooper is a native of Hayti, received his preliminary education at Lincoln University and his M.D. degree at Meharry Medical College in 1964. He is in general practice.

Charles H. Dahm, Jr., M.D., 329 N. Meramec, St. Louis, has become a member of St. Louis Medical Society. Dr. Dahm is a native of St. Louis, received his preliminary education at St. Louis University and his M.D. degree at St. Louis University in 1956. He specializes in obstetrics and gynecology.

Ira Dash, M.D., 1 Winding Brook Lane, St. Louis, has become a member of St. Louis Medical Society. Dr. Dash is a native of Calcutta, India, received her preliminary education at Queen Mary's College and her M.D. degree at Madras Medical College in India in 1958. She specializes in anesthesiology.

James E. Ferneau, M.D., 113 W. Broadway, Columbia, has become a member of Boone County Medical Society. Dr. Ferneau is a native of LaSalle, Illinois, received his preliminary education at Oklahoma State University and his M.D. degree at the University of Missouri in 1963. He specializes in obstetrics and gynecology.

Godofredo M. Herzog, M.D., 216 S. Kingshighway, St. Louis, has become a member of St. Louis County Medical Society. Dr. Herzog is a native of Chemnitz, Germany, received his preliminary education at Louisiana State University and his M.D. degree at Washington University in 1957. He specializes in obstetrics and gynecology.

Lawrence M. Lampton, M.D., 24th & Cherry, Kansas City, has become a member of Jackson County Medical Society. Dr. Lampton is a native of Kansas City, received his preliminary education at Rockhurst College and his M.D. degree at the University of Missouri in 1966. He specializes in internal medicine.

(Continued on page 746A)

New Members (Cont'd)

William H. Lauderdale, M.D., High and Bolivar, Jefferson City, has become a member of Cole County Medical Society. Dr. Lauderdale is a native of Rolla, received his preliminary education at Baylor University and his M.D. degree at the University of Missouri in 1963. He specializes in internal medicine.

James C. MacLaughlin, M.D., Medical Arts Bldg., Joplin, has become a member of Jasper County Medical Society. Dr. MacLaughlin is a native of Hot Springs, Arkansas, received his preliminary education at the University of Arkansas and his M.D. degree at the University of Arkansas in 1959. He specializes in internal medicine.

Levy M. Maravilla, M.D., 4211 Bayless, St. Louis, has become a member of St. Louis County Medical Society. Dr. Maravilla is a native of the Philippines, received his preliminary education at Santo Thomas University and his M.D. degree at Manila Central University in 1951. He is in general practice.

Saul Niedorf, M.D., 369 N. Taylor Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Niedorf is a native of New York City, received his preliminary education at the University of California and his M.D. degree at the University of Geneva in 1959. He specializes in psychiatry.

Jim C. Porter, M.D., Knight Bldg., Lebanon, has become a member of Mid-Missouri County Medical Society. Dr. Porter is a native of Little Rock, Arkansas, received his preliminary education at Arkansas Polytechnic College and his M.D. degree at the University of Arkansas in 1964. He is in general practice.

Paul S. Quinn, M.D., 1423 N. Jefferson Ave., Springfield, has become a member of Greene County Medical Society. Dr. Quinn is a native of Mt. Sterling, Illinois, received his preliminary education at the University of Illinois and his M.D. degree at the University of Iowa in 1961. He specializes in pathology.

Lane Arthur Reeves, M.D., 11th and Bishop, Rolla, has become a member of Mid-Missouri County Medical Society. Dr. Reeves is a native of Leon, Iowa, received his preliminary education at Graceland College and his M.D. degree at the University of Iowa in 1961. He specializes in obstetrics and gynecology.

Bruce I. Shackter, M.D., 2620 E. Portland, Springfield, has become a member of Greene County Medical Society. Dr. Shackter is a native of Chicago, Illinois, received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Illinois in 1960. He specializes in orthopedic surgery.

Richard H. Spitz, M.D., 3600 N. 2nd St., St. Louis, has become a member of St. Louis Medical Society. Dr. Spitz is a native of Stewardson, Illinois, received his preliminary education at Washington University and his M.D. degree at Washington University in 1956. He specializes in pediatrics.

Clarence A. Stratman, M.D., 60th St. N. & Antioch, Kansas City North, has become a member of Clay County Medical Society. Dr. Stratman is a native of Omaha, Nebraska, received his preliminary education at Creighton University and his M.D. degree at Creighton University in 1959. He is in general practice.

Argyrios Tsifutis, M.D., 8631 Rosalie Ave., Brentwood, has become a member of St. Louis County Medical Society. Dr. Tsifutis is a native of Nigrito, Greece, received his preliminary education in Nigrito and his M.D. degree at Aristotelion University in 1954. He specializes in pediatrics.

Robert K. Weir, M.D., 4200 Blue Ridge, Kansas City, has become a member of Jackson County Medical Society. Dr. Weir is a native of Independence, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1963. He specializes in ophthalmology.

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Volume 64, Number 9—September, 1967

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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PHILIP C. ANDERSON, M.D. *and*
GERARD VAN LEEUWEN, M.D., *Columbia*

Unusual Skin Disorders in Newborn Infants

Case Reports

To improve our understanding of the skin of newborn infants, we have formed a pediatrician-dermatologist team to examine 100 newborns sequentially each year and to review all unusual cases of skin disease. During a very short time, these six unusual entities were encountered: pityriasis alba, hairy ears, aplasia cutis congenita, subcutaneous fat necrosis, acrodermatitis enteropathica and fetofatal hemorrhage. The disorders are described with color photographs and comment.

Case Reports

Case # 1 *Pityriasis Alba* (Fig. 1) a Negro infant was admitted to our premature observation unit at the age of 14 hours, weighing 1100 grams. The infant's subsequent course in our premature nursery was uneventful except for a pneumonitis at age of five days which responded to penicillin and streptomycin. At the age of one month, depigmented macules covered by a fine powder scale appeared first around the groin, extended up the midline ventrally to involve the neck, chest, axilla and upper extremities. The configuration was of many round lesions varying from 1 to 5 cm overlayed. The resemblance to tinea versicolor was noted, but careful and repeated KOH examinations and cultures found no fungi and no bacteria. The response to initial treatment with mycostatin cream and 2% gentian violet solution was poor. No further treatment was given. The baby was discharged from the hospital when his weight reached 2800 grams and he was two months old. On several subsequent visits, the pigmentation became less apparent and, by six months, repigmentation was complete.

Discussion: Undoubtedly the diagnosis is pityriasis alba,[1] but such extensive disease is unusual and the disorder is rarely seen in the newborn. Commonly, this entity involves children of school age, mostly before puberty, but occurs also in adults. Because pityriasis alba is more apparent in dark skinned persons, they are much more likely to request medical advice. Although several textbooks state that pityriasis alba represents a low grade pyoderma, this has been discredited. More likely, it is a variant of eczema. Even severe cases rarely are studied, almost never by biopsy. The disease is neglected.

Case # 2 *Hairy Ears* (Fig. 2) This full term Negro infant was born with large amounts of black terminal hair on the scalp and interscapular areas. However, the mother was most alarmed to find that coarse black hair covered the helices of both ears. No other anomalies of the skin or nails were present and the hair disappeared by age of two months.

Discussion: Kleigman[2] has discussed the forms of telogen effluvium which occur normally during life. The first is seen between four and 12 weeks of age, usually as a gradual process, but occasionally seen as sudden alopecia. Following such an effluvium, the hair pattern may be agreeably different, as in this case, or the hypertrichosis

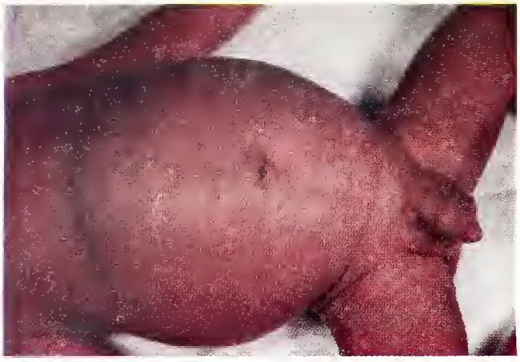

Fig. 1

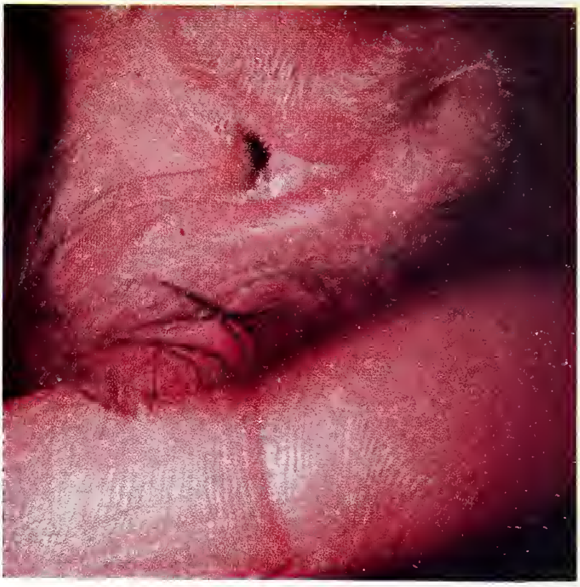

Fig. 2

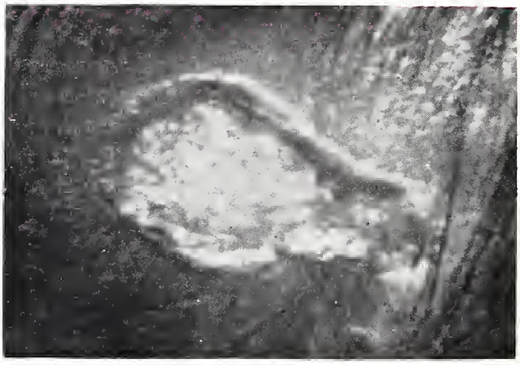

Fig. 3

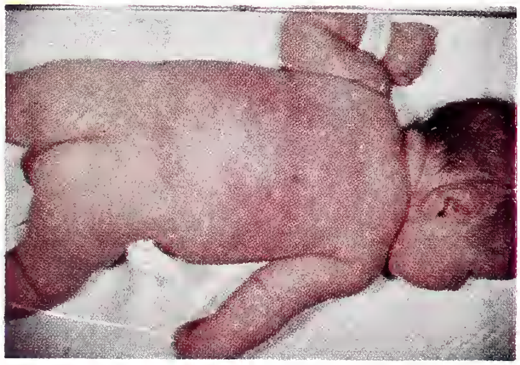

Fig. 4

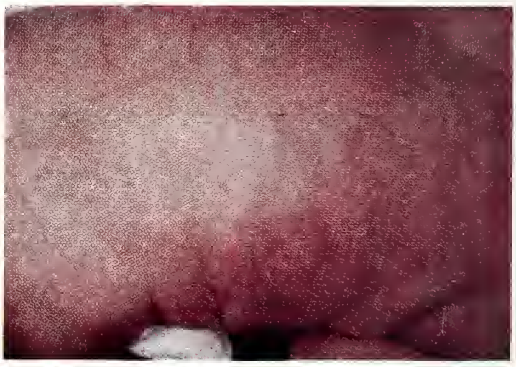

Fig. 5

Fig. 1 Pityriasis Alba resembles tinea versicolor, but the causative organism, Malassezia furfur, is always absent. Simple lubrication is the best treatment.

Fig. 2 Hairy Ears: This alarming mat of coarse black hair grew from the infant's pinna. To the great relief of the mother, the hair follicles involuted after 12 weeks.

Fig. 3 Aplasia Cutis Congenita: The brain was visible through this typical keyhole defect with only thin dura interposed. Healing proceeded without treatment.

Fig. 4 Subcutaneous Fat Necrosis of the Newborn: Stony, hard, non-tender purple plaques are seen in all fatty areas subject to trauma. Disturbances of calcium metabolism may ensue.

Fig. 5 Subcutaneous Fat Necrosis of the Newborn: A closer view showing the nodularity marked vascular pattern with venous stasis and severe induration.

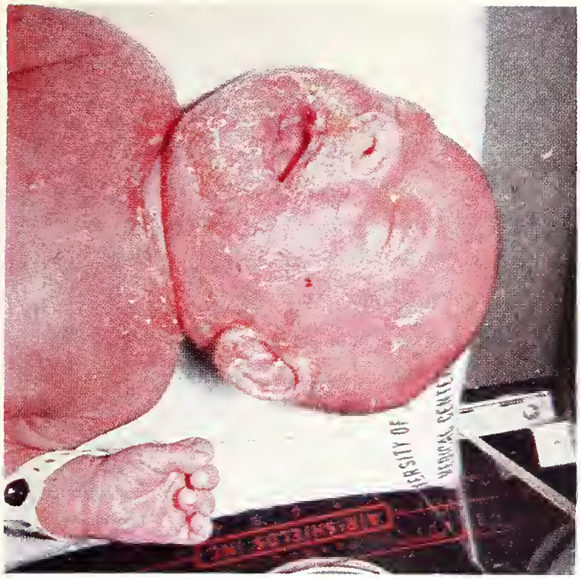

Fig. 6

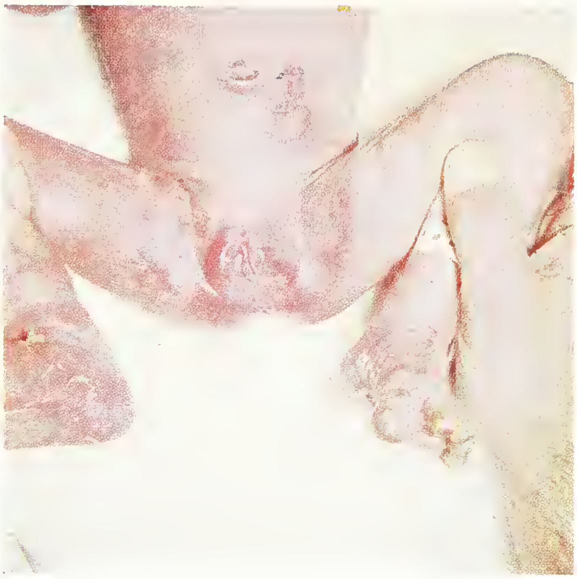

Fig. 7

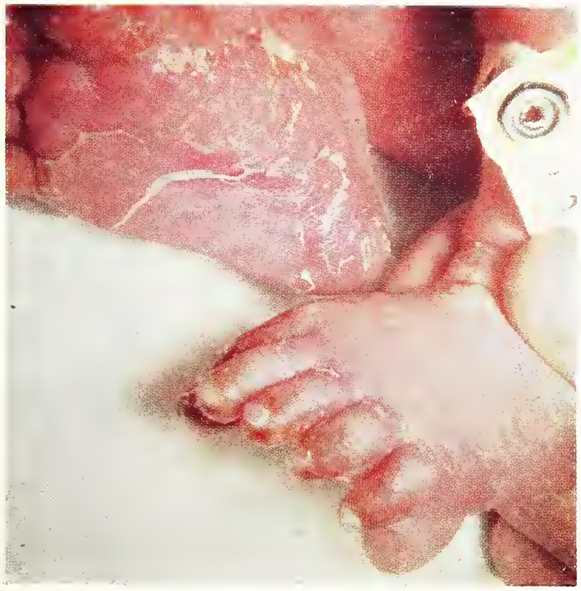

Fig. 8

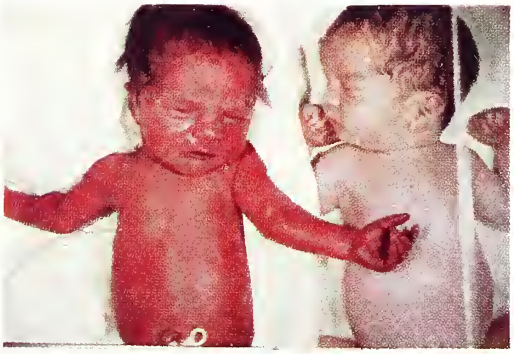

Fig. 9

Fig. 6 Acrodermatitis Enteropathica: Erosions in the mouth and on the lips are most severe. The persistent edema, aggressive candidiasis and the depth of the erosions are against the diagnosis of severe childhood eczema which the picture suggests.

Fig. 7 Acrodermatitis Enteropathica: Pustules, erosions and poor healing suggests candidiasis, but the organism is not present in fresh lesions.

Fig. 8 Acrodermatitis Enteropathica: Sterile pustules are developing on the sole. The ulcerations at the tips of the digits suggest epidermolysis bullosa.

Fig. 9 Note the dramatic contrasts between the neonatal twins who experienced fetofetal hemorrhage. The hematocrit of the red infant was 80% and of the pale infant, 20%.

As a pediatrician-dermatologist team, the authors examine 100 newborns each year to review skin diseases and improve understanding of the skin of newborn infants. They present six case reports in which six different, unusual entities were encountered. Doctor Anderson is from the Section of Dermatology, Department of Medicine, and Doctor Van Leeuwen is from the Department of Pediatrics, University of Missouri Medical Center.

may return. All forms of hypertrichosis are probably familial and usually are transmitted as an autosomal dominant trait, although in some families there is evidence of transmission through a Y-chromosome linkage.

Case # 3 *Aplasia Cutis Congenita* (Fig. 3) A full term white male infant had a 1½ x 2 cm structural fault on the scalp at about the midline just adjacent to the posterior fontanelle. Only dura closed the fault beneath. Skin and bone were absent; the surface of the brain was visible. No therapy was advised except that the area be kept clean. Normal healing occurred.

Discussion: Probably determined by a recessive gene, this rare defect of the newborn is found on the scalp near the midline at the vertex in over three-fourths of the cases and usually is a single lesion.[3, 4] Multiple and similar defects may occur over the acromion, olecranon and posterior superior iliac spines or as long grooves over the tibial surfaces of the legs anteriorly.[5] Some cases of aplasia cutis heal before birth, leaving a scarred and epithelialized disc in the scalp. Lesions such as this one can be expected to heal rapidly in infancy, if not complicated by infection. Surgical closure should not be attempted until it is apparent that natural healing has failed because disruption of the natural closure seems to favor bacterial meningitis. A deep tract may be present extending into the brain and, therefore, the advice of a neurosurgeon acquainted with this rare disease may be desirable before interfering.

Case # 4 *Subcutaneous Fat Necrosis* (Figs. 4 and 5) A male infant, admitted at the age of five days, was the product of a full term pregnancy and a difficult breech delivery. He was admitted because an already extensive skin disorder was becoming more widespread. The baby weighed 10 lb 2 oz at birth. The mother was thought not to have diabetes mellitus. The child was normal except for the skin. Multiple purple, hard, deep nodules and tumors were felt in the skin over the sacrum, midback, hips, elbows and shoulders. He improved steadily during four days in the hospital and was discharged.

Discussion: Subcutaneous fat necrosis is a well recognized entity usually associated with a difficult obstetrical delivery. Typically, between six and ten days of age, lesions appear on the cheeks, neck, back, shoulders and buttocks in fatty tissues. The lesions are discrete, not fixed to the upper skin, irregularly shaped, nontender, firm, red nodules, plaques and tumors. The lesions disappear progressively during several weeks or a few months. The disorder has been encountered frequently in infants born to diabetic mothers, and in recent years, several reports have described disturbances of calcium metabolism associated with fat necrosis.[6–8] The relationship between hypercalcemia and fat necrosis is unclear, although hyperlipasemia in adults also causes calcification in the hypodermis and may produce severe hypocalcemia.

Case # 5 *Acrodermatitis Enteropathica* (Figs. 6-8) A white female, born at the University of Missouri Medical Center, was full term with an uneventful first four days. On the fifth day, oral candidiasis appeared and a diffuse bluish erythema with small erosions and desquamation developed on the tips of the fingers and toes. The epidermis over the tips of the fingers and toes became ulcerated symmetrically. A tentative diagnosis of epidermolysis bullosa was made. However, because further peculiar erosions developed around the mouth and in the skin of the axilla and groin, and because the oral candidiasis persisted and a chronic diarrhea developed, the diagnosis was revised to acrodermatitis enteropathica. Finally, a diffuse erythema with scaling and some crusting spread over the entire body. Diodoquin, said to be very beneficial in some cases, was given and there was brief, but impressive improvement. However, the infant's general course was poor; remissions were short; and there were severe recurrences of infection and skin lesions. In spite of topical care, antibiotics, hypoallergenic diet and diodoquin, the child developed an overwhelming staphylococcal infection and died from a pneumonitis at five weeks of age.

Discussion: This rare, often fatal familial disorder has been discussed recently by Margileth and others.[9-11] Approximately 60 cases have been reported, mostly in older children, although a few have been described in newborns. The triad of diarrhea, alopecia and the characteristic erosive skin lesions suggest the diagnosis. The alopecia and loss of fingernails may not be present at the onset of the disease, but develops after several weeks. In the infant, apathy, failure to thrive, severe candidiasis and general susceptibility to infection are characteristic. The course in later childhood and adult life is more benign and chronic; alopecia, anonychia, intermittent diarrhea and erosive skin lesions in body folds persist. Later in life, clouding of the cornea develops. Some persons afflicted with acrodermatitis enteropathica in childhood appear to recover completely and early treatment may facilitate recovery without residual damage. The diagnosis in this case was based on the presence of the typical erosive acropathy and the typical cutaneous lesions about the mouth and in the major body folds, together with the gastrointestinal disturbance, persistent candidiasis and eventual susceptibility to recurrent and fatal staphylococcal infection after the temporary response to diodoquin. The cutaneous lesions do closely resemble those of epidermolysis bullosa with which this disorder is easily confused.

Case # 6 *Fetofetal Hemorrhage* (Fig. 9) Male twins were admitted to UMMC at age four hours. Twin "A" weighed 1940 gm and Twin "B" weighed 1900 gm. The physician immediately noted the extreme plethora of "A" and pallor of "B." On examination, "A" appeared normal except for his red skin and a hematocrit of 82%. Twin "B" was pale, lethargic and had hepatomegaly. His hematocrit was 22%. The red twin was treated by removing 37 ml of blood, followed by 60 ml/kg of hypotonic electrolyte solution intravenously for 48 hours. His hematocrit promptly decreased to 65%, but he developed hyperbilirubinemia to 17.2 mg%, indirect type, at age 59 hours. His neurological status remained normal. No exchange transfusion was performed. The infant was discharged at age five weeks, weighing 2800 gm, with a hematocrit of 54%. Immediately after admission, the anemic twin was given plasma while blood was being typed and crossmatched. The infant was given 40 ml of whole blood, which increased the hematocrit to 32%. Unfortunately, the placenta was not available for examination, so the site of the hemorrhage could not be established. The infants were probably identical twins.

Discussion: The startling phenomenon of one twin bleeding into the other is more common than generally appreciated.[12, 13] Several reports of identical twins with this disorder have appeared in recent years. We have observed two other similar sets of identical twins in whom the disparity of hematocrits was much less impressive and for whom no treatment was needed. The placental anomaly which gives rise to this disorder usually is an artery to vein anastomosis. Artery to artery and vein to vein anastomoses occur frequently and are of no significance in monochorionic placentas. The management of the anemic twin is not controversial. Prompt transfusion of whole blood and digitalization in the presence of cardiac decompensation should be performed. Treatment is urgent, because irreversible shock and death develops quickly. The exact level of hemoglobin at which therapy is required, either in one of the twins or in a single anemic infant, is less clearly defined. In our nursery, transfusions are given without awaiting laboratory information if the infant's condition appears critical. Immediate bleeding of the erythemic infant is advocated. Plasma or intravenous fluids are also advised to prevent the development of stasis. Hyperbilirubinemia and resulting kernicterus and cerebral thrombosis are complications of this polycythemia. Complete exchange transfusion with normal hematocrit blood is probably the most desirable form of therapy.

SUMMARY

Six unusual cutaneous diseases of newborns were presented with pictures. These were: (1) Pityriasis alba, (2) Hairy ears, (3) Aplasia cutis congenita, (4) Subcutaneous fat necrosis, (5) Acrodermatitis enteropathica and (6) Fetofetal hemorrhage.

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Unpredictable Response of the AV Node

Case Report

The surgical repair of an ostium primum atrial septal defect may be followed by a complete auriculoventricular (AV) block. The following case is presented to show that an AV block after surgical repair of an ostium primum is not necessarily a permanent one and that it can be intermittent, to show that there is an unpredictable response of the AV node to different drugs and to demonstrate that a patient may perform strenuous activity in the presence of a complete AV block with a slow ventricular rate.

Case Report

A 16-year-old boy underwent an operation for repair of an atrial septal defect of the ostium primum type in June, 1960. At the time of surgery, a quarter-size septum primum defect was closed with primary suturing, in addition to the repair of a very small secundum type lesion. Immediately following surgery, he developed a complete heart block. During the past six years, the patient had been totally asymptomatic and had engaged in strenuous athletic activities. Since the time that the complete AV block developed, the patient has been taking isoproterenol sublingually very intermittently and sporadically. In 1962, he was seen at the University of Colorado School of Medicine and was found to have an intermittent complete heart block with varying periods of normal AV conduction. At this time, it was recommended that he continue isoproterenol and that he limit his physical activities. The patient was seen for the first time in 1965 in the Section of Cardiology at the St. Louis University School of Medicine. During the past years, he had engaged in strenuous physical activity without symptoms while taking isoproterenol infrequently. He has reported that his pulse during strenuous wrestling matches and football games sometimes is fast and sometimes is slow.

On physical examination, this boy was found to be athletically built and in no distress. The pulse was regular at a rate of 80 per minute, the respirations 18 per minute and the blood pressure 110/60. Examination of the eyes, ears, nose, throat and neck was negative. Examination of the heart showed a point of maximum impulse in the fifth intercostal space at the midaxillary line. The first heart sound was normal and the second persistently split at the

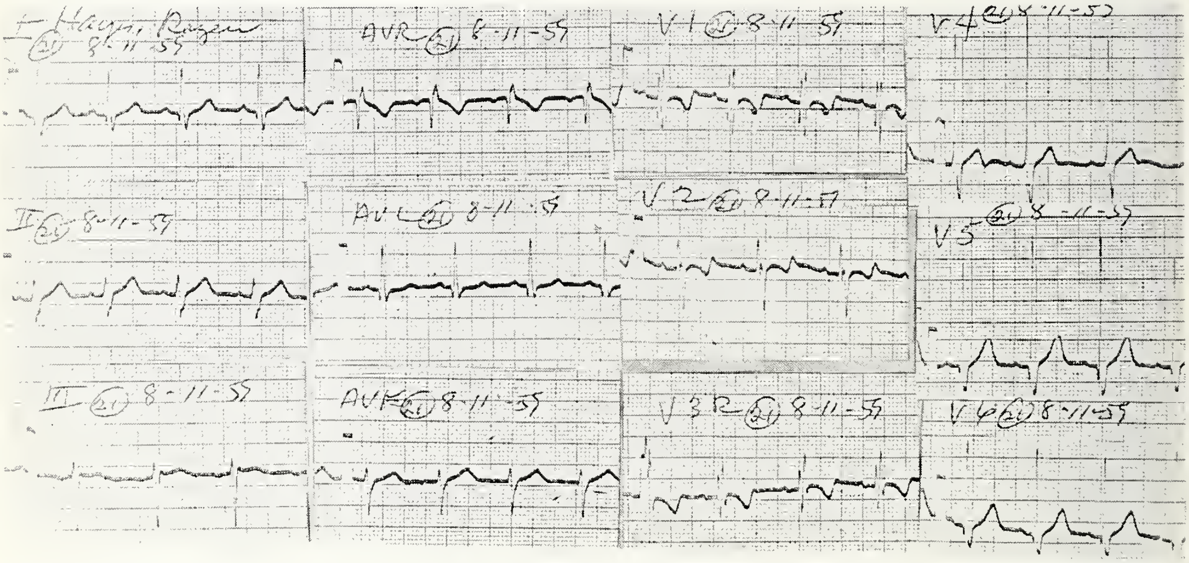

Fig. 1 Preoperative electrocardiogram showing sinus rhythm, left axis deviation and right bundle branch block pattern.

pulmonic area. There was an apical medium pitched mid-systolic grade 2/6 murmur without radiation. No diastolic murmurs were heard.

Examination of the lungs, abdomen and extremities was within normal limits. The preoperative electrocardiogram showed typical changes for an ostium primum i.e., a frontal QRS axis of –30°, a right bundle branch block pattern and a tall R wave in lead V_5. The QRS complex measured 0.10 seconds (Fig. 1). An electrocardiogram taken in August, 1965, showed a sinus rhythm with a PR interval that increased to 0.20 seconds (Fig. 2). The QRS complex was 0.14 seconds and showed a pattern of complete right bundle branch block. A deeply diphasic P was present in V_1, indicating left atrial enlargement. Another electrocardiogram taken one day later when his pulse was found to be 40, revealed a complete AV block with an atrial rate of 88 and a ventricular rate of 40. The idioventricular rhythm showed a diffuse intra-ventricular conduction delay pattern totally different from that seen on the previous electrocardiogram.

Using radio-electrocardiographic monitoring equipment with one electrode attached on the right clavicle and the other at the fifth intercostal space in the left anterior axillary line, the patient walked on the treadmill starting at one and two miles per hour (mph) for three minutes to become acquainted with this type of exercise (Fig. 3). The telemetered electrocardiogram obtained at rest showed a complete heart block with an atrial rate of 75 and a ventricular rate of 49. (The QRS complexes were upright because polarity was mistakenly reversed.) After three minutes of walking at 3 mph, the ventricular rate remained at 49 and, because of an irregular baseline, the atrial rate could not be accurately measured. The ventricular rate did not change after 3½ mph for three minutes. After 4 mph for three minutes, the venticular rate was 53 and did not change after 4 mph for ten minutes. The complete AV block persisted. The exercise was stopped; the atrial rate was 120 per minute and the ventricular rate 53. One minute later, the atrial rate was 120 and the ventricular rate was 51. After two and four minutes, there was a further decrease in the atrial and ventricular rates; after ten minutes, the atrial rate was 91 and the ventricular 47; and after 15 minutes, the atrial rate was 90 and the ventricular 42. Before the last tracing was taken, the polarity of the electrodes was corrected. During this exercise, the patient perspired profusely, but complained of no symptoms and was in no distress. The patient then performed exercise on the Master two-step (Fig. 4). He walked the steps 40 times in one and one-half minutes and again did not experience symptoms. The AV block remained and the atrial rate increased from 75 to 135, the ventricular rate increasing only from 46 to 49. It must be stated that the patient had not taken isoproterenol for 24 hours before these tests were done.

After one-half hour of rest, the patient was given

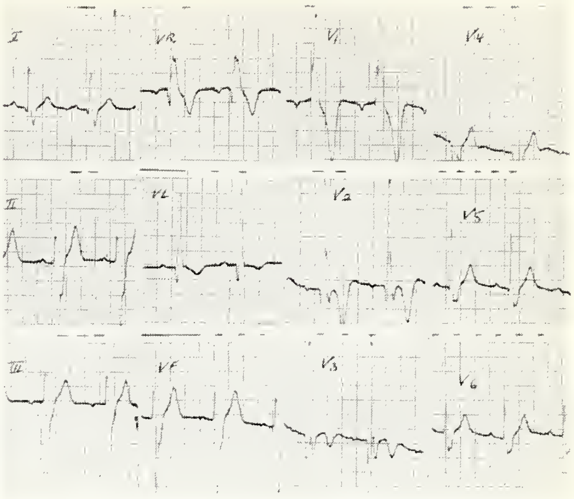

Fig. 2 Electrocardiogram showing sinus rhythm, slight AV conduction delay and right bundle branch block pattern.

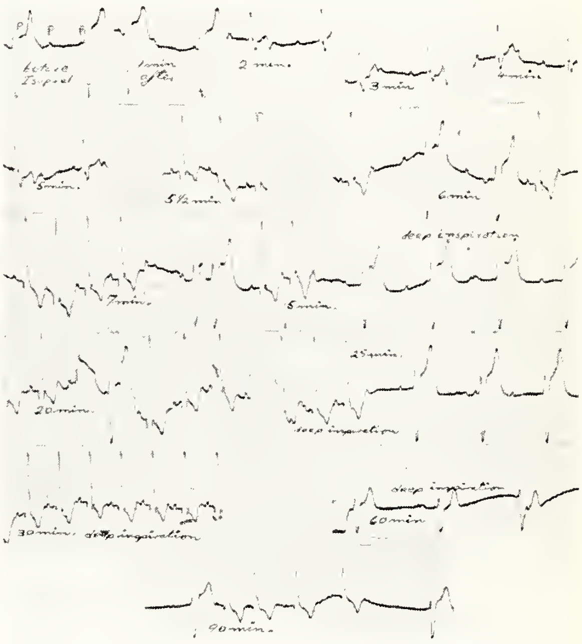

Fig. 3 Electrocardiogram showing the persistence of complete AV block during and after strenuous exertion.

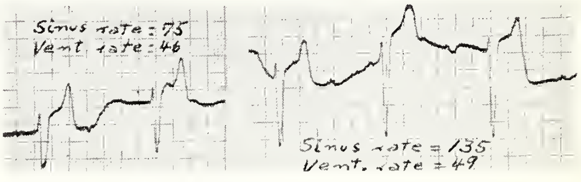

Fig. 4 Electrocardiogram taken during exercise on the two-step.

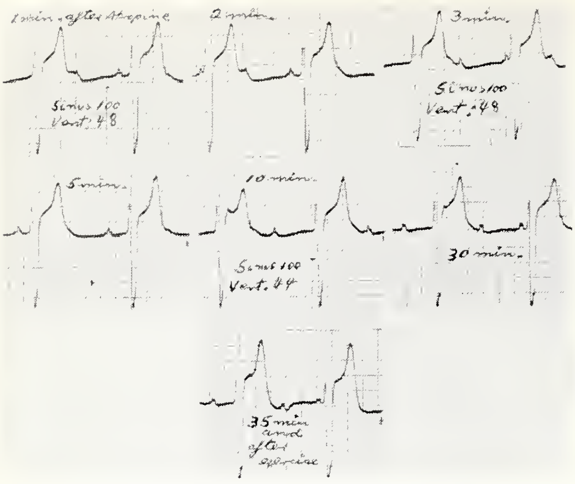
1 min. after Atropine
2 min.
3 min.
Sinus 100
Vent. 48
Sinus 100
Vent. 48
5 min.
10 min.
Sinus 100
Vent. 44
30 min.
35 min. and after exercise

Fig. 5 Electrocardiogram showing no effect of atropine and exercise on the AV block.

1.0 mg of atropine sulfate intravenously (Fig. 5). Observation at two, five, ten and 30 minutes showed the complete AV block to continue. The atrial and ventricular rates were unchanged. The patient then walked on the treadmill at 4 mph for five minutes, but the complete AV block persisted, the atrial rate increasing to 125 and the ventricular to 52.

On the following day, the patient still had the complete AV block. He was given 10 mg of isoproterenol sublingually, which was the dose he took very irregularly in previous years (Fig. 6). After one minute there was no change, and after two minutes the complete AV block continued but the QRS pattern changed from a left bundle branch block to a right bundle branch block pattern, with no change in the ventricular rate. At five and one-half minutes, normal AV conduction occurred with a ventricular complex of a different configuration again, but similar to his normally conducted QRS complex as seen in Fig. 2. From seven to 15 minutes after the administration of isoproterenol, there were longer and longer periods of normal conduction. At 15 minutes, and with a sinus rhythm with normal AV conduction, the patient was asked to hold his breath in deep inspiration. This produced a complete AV block which disappeared immediately after the patient began breathing. The same phenomenon occurred at 25 minutes, but at 30 minutes, a deeply held inspiration no longer produced the AV block and a sinus tachycardia with normal AV conduction persisted. A strenuous Valsalva maneuver at 30 minutes after isoproterenol failed to produce an AV block, which recurred with deep inspiration one-half hour later. One and one-half hours after the isoproterenol was given, there were short periods of sinus rhythm with normal AV conduction, but the complete AV block was the dominant rhythm.

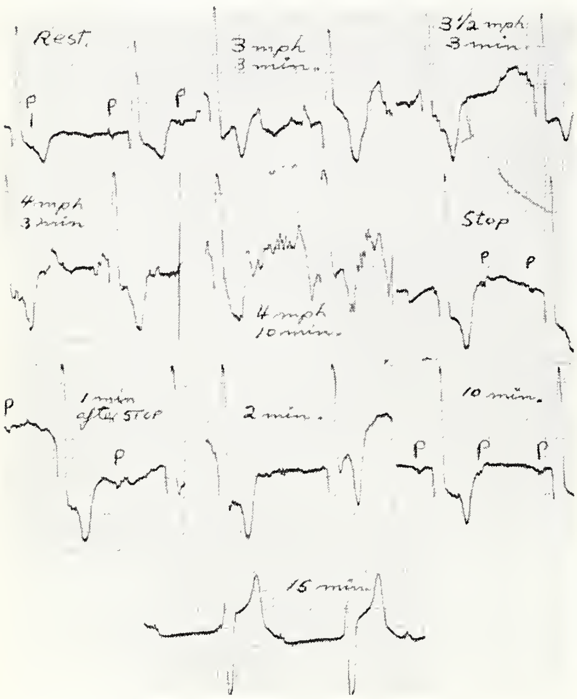
Rest
3 mph
3 min.
3 1/2 mph
3 min.
P
P
P
4 mph
3 min
Stop
P
P
4 mph
10 min.
P
1 min
after Stop
2 min.
10 min.
P
P
P
P
15 min.

Fig. 6 Electrocardiogram showing effect of Isoproterenol on complete AV block.

The next observation was made to note the effect of isoproterenol at a time when the patient had normal AV conduction. We must emphasize that we could not predict what type of rhythm this patient would have at any time (Fig. 7). With an atrial and ventricular rate of 68 and mild sinus arrhythmia, 10 mg of isoproterenol were given sublingually. The conducted QRS complexes had a right bundle branch block pattern. During the first nine minutes of observation, there were changes in the PR interval duration from 0.20 to 0.22 seconds. At nine and one-half minutes, a complete AV block developed with deep held inspiration in spite of the isoproterenol. The QRS complexes from the idioventricular focus were totally different from the ones seen before. The AV block was very transient and disappeared even before the patient began breathing normally. The same phenomenon could not be produced with sever-

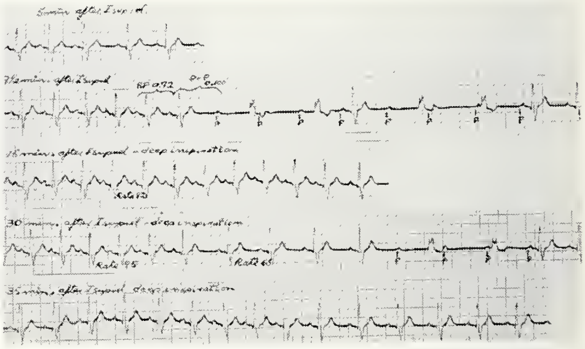
5 min. after Isuprel
PR 0.22
Rate 95
30 min. after Isuprel - deep inspiration
Rate 95
Rate 65
35 min. after Isuprel deep inspiration

Fig. 7 Electrocardiogram showing changes which occurred with Isoproterenol with normal AV node conduction.

al attempts at deep inspiration until 30 minutes after isoproterenol, when it again occurred lasting only three seconds. A Valsalva maneuver failed to produce a complete AV block. It is interesting to note that the patient at no time experienced symptoms or even knew that his heart rhythm had changed during all our observations.

On a subsequent day, and in order to repeat the changes observed with isoproterenol in the presence of the AV block, a resting electrocardiogram was taken and, again, showed a sinus rhythm with a slightly prolonged PR interval. On deeply held inspiration, a short period of ventricular arrest occurred with no change in the P waves (Fig. 8). The patient was then asked to do ten sit-ups and to lie down and take and hold a deep inspiration, after which the same phenomenon occurred. During the next 30 minutes, repeated attempts at producing ventricular arrest with Valsalva maneuvers, eyeball pressure, carotid artery massage, exercise and a combination of the above maneuvers were done, but we could not elicit this unpredictable phenomenon again.

During these studies, blood pressures were take in the presence and absence of AV block, with and without isoproterenol or atropine and during and after exercise. They fluctuated from 95 to 110 systolic and 75 to 85 diastolic. No blood pressures were taken during the very short periods of ventricular arrest.

Discussion

The auricular-ventricular block produced by surgical correction of ventricular septal defects is frequently permanent and, in atrial septal defect of the ostium primum type, may be transient. Permanent interruption of normal conduction can be produced by complete accidental destruction of the node or by an anatomical interruption of the bundle of His due to sutures. A temporary interruption of the function of the nodal fibers may be due to post-traumatic edema of the cardiac wall or small intramural hemorrhages. Only a thin rim of muscle separates the AV node from the defect[1] (Fig. 9). Temporary complete AV blocks occur in approximately 70% of cases[2] and are seen mostly in ostium primum repair, whereas those produced by repair of ventricular septal defects are permanent. Weiss *et al*[3] have recently reported no AV block in 18 cases of ostium primum repair, but this complication is mentioned by others.[4] The present case is unusual in that, many years after the successful repair of an ostium primum, this patient still has an intermittent complete AV block. The objective of the current studies was to establish a certain pattern in order to be able to determine the hemodynamic changes which occur with a complete AV block under the stress of exercise. As the history reveals, this patient has been able to do strenuous exercise without symptoms. The first paradox was that severe strenuous exercising (sympathetic stimulus) while the patient had the AV block did not abolish this, even though it significantly increased

(*Continued on page 759*)

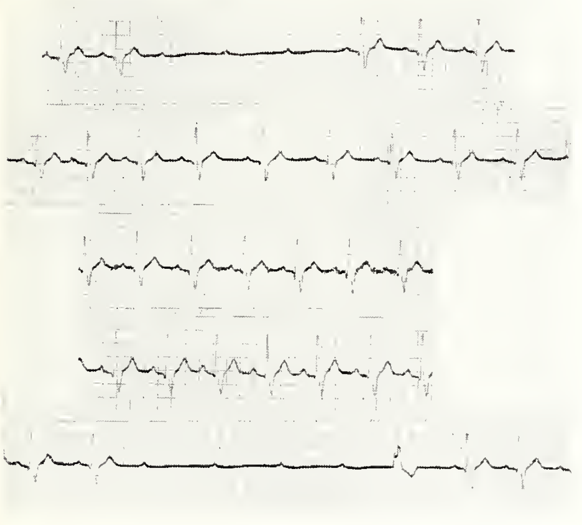

Fig. 8 Electrocardiogram showing unexpected episodes of ventricular arrest.

A case report that describes a study of alterations in atrio ventricular conduction in a patient years after repair of an atrial septal defect. Doctors Thurmann, Hiremath and McCool are from the Section of Cardiology, Department of Internal Medicine, St. Louis University School of Medicine, where Doctor Thurmann is Senior Instructor in Internal Medicine.

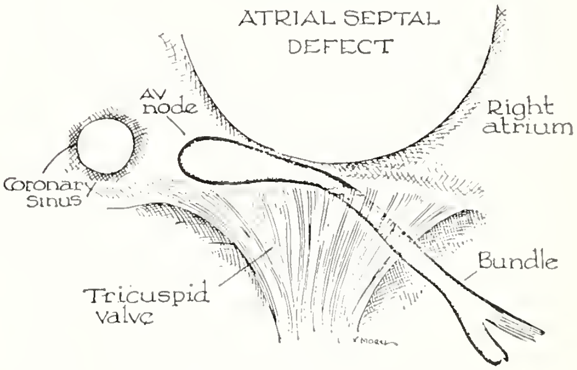

Fig. 9 Anatomical relationship of ostium primum atrial septal defect to AV node.[1]

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R. D. WILLIAMS, M.D. *and* **A. E. SPELMAN, M.D.**, *Smithville*

Intrathoracic Chemodectoma

Case Report

CHEMORECEPTORS FUNCTION in the regulation of blood pH, CO_2 and O_2 tension, and are believed to be of neural crest origin similar to the adrenal medulla. These differ from the adrenal medulla, however, in lacking the secretion of a catecholamine (epinephrine or nor-epinephrine). Tumors originating from chemoreceptors have been described as early as 1891 by Marchard.[1] These tumors were found to be in areas associated with known sites of chemoreceptors. Mulligan[2] introduced the term "chemodectoma" for tumors derived from chemoreceptors. Haber[3] prefers the terms "non-chromaffin paraganglionoma" (Chemodectoma) for tumors of chemoreceptor origin and "chromaffin paraganglionoma" for tumors of the sympathetic ganglia which secrete catecholamine. Tissue containing catecholamine is known to have an affinity for chromaffin stain.

Boyd[4] and Comroe[5] have described the known sites of intrathoracic chemoreceptors. These were described by Boyd[4] as being located (1) above the arch of the aorta on the lateral aspect of the innominate artery, (2) on the anterolateral aspect of the left portion of the aortic arch, (3) in the angle between the ductus arteriosus and descending portion of the arch and (4) between the pulmonary artery and the ascending arch of the aorta. Pachter[6] reviewed 12 cases of mediastinal chemodectomas and noted that only four were located in these areas.

Over 250 chemodectomas have been described in the literature in various locations in the body. According to Smithers,[7] 28 of these appear intrathoracically. Ashley,[8] Shaw and Kennedy[9] and Duncan and McDonald[10] reported four cases of intrathoracic chemodectoma located in the posterior sulcus. The purpose of this paper is to report the fifth case. To our knowledge, this is the first benign case of this rare tumor in a person so young.

A case report of a young patient with an unusual thoracic tumor which was removed successfully. The authors discuss the puzzling laboratory chemical findings. Mr. Fuller is a senior medical student at the University of Missouri Medical Center. Doctors Arst, Williams and Spelman are in the private practice of medicine in Smithville.

CASE REPORT

A 15-year-old white female was seen at Smithville Clinic on Sept. 27, 1966, at which time she complained of frequent sweating spells, particularly after exertion, of two weeks duration. She complained of a "cold" and night sweats. This prompted a radiographic examination of the chest which revealed "a rounded mediastinal tumor posteriorly on the right" (Fig. 1). She was, therefore, admitted to Smithville Community Hospital on Sept. 30 for further evaluation.

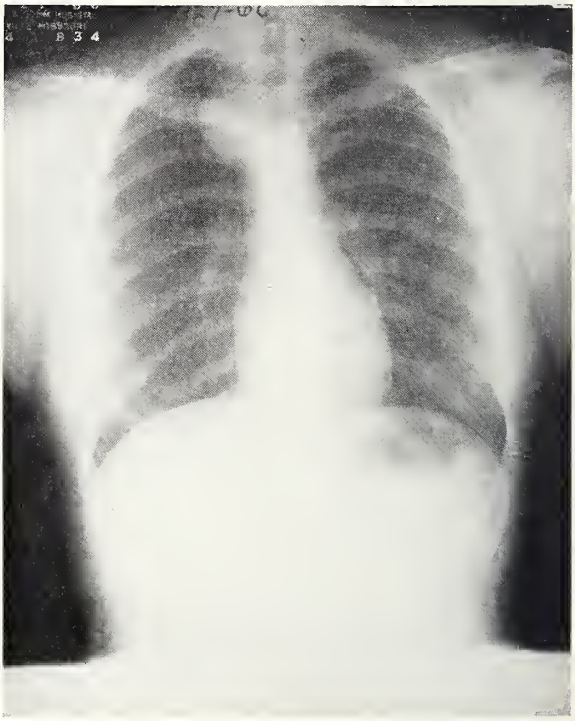
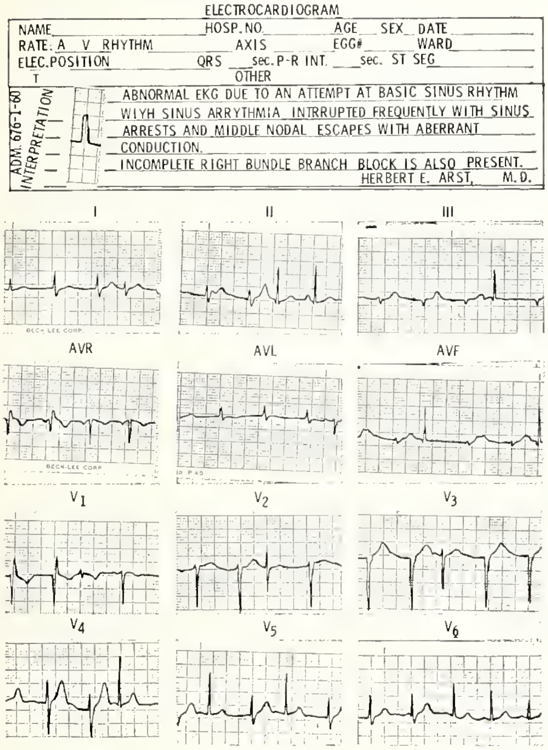


Fig. 1

On physical examination, she appeared to be a robust, healthy white female. Blood pressure was 140/72 bilaterally with no significant variation. Her pulse was 120 and regular. The rest of the physical examination was essentially normal.

Laboratory data revealed a normal complete blood count and urine analysis. The blood sugar was 102 mg%. A 24-hour urinary collection of catecholamines was performed and reported as 1100 micrograms (normal, less than 103 micrograms/24 hr). The pathologist found evidence that the specimen was contaminated. A 24-hour urinary excretion of 5-Hydroxyindole-acetic acid (5-HIAA) was also elevated at 19.6 micrograms/24 hr (normal 2 to 9 micrograms/24 hr).



ELECTROCARDIOGRAM
NAME HOSP. NO. AGE SEX DATE
RATE: A V RHYTHM AXIS EGG# WARD
ELEC. POSITION QRS sec. P-R INT. sec. ST SEG
T OTHER
ADM. 676-1-60
INTERPRETATION
ABNORMAL EKG DUE TO AN ATTEMPT AT BASIC SINUS RHYTHM WIYH SINUS ARRYTHMIA INTRRUPTED FREQUENTLY WITH SINUS ARRESTS AND MIDDLE NODAL ESCAPES WITH ABERRANT CONDUCTION.
INCOMPLETE RIGHT BUNDLE BRANCH BLOCK IS ALSO PRESENT.
HERBERT E. ARST, M.D.

Fig. 2

The electrocardiogram was interpreted as an attempt at basic sinus rhythm with sinus arrhythmia interrupted frequently with sinus arrests, and middle nodal escapes with aberrant conduction. An incomplete right bundle branch block also was present (Fig. 2).

A posterolateral thoracotomy through the right fourth interspace was performed on Oct. 3. Prior to anesthesia induction, her blood pressure was noted to be 160/100. During anesthesia, her blood pressure varied between 90/60 and 100/70. Manipulation of the tumor failed to produce any change in her blood pressure. The mass was not adherent to the lung. It was covered with a thin layer of parietal pleura and was immediately adjacent to the heads of the second and third ribs in the paravertebral sulcus. The vascularity of the tumor was impressive. There was no evidence of invasion, and a local resection was carried out.

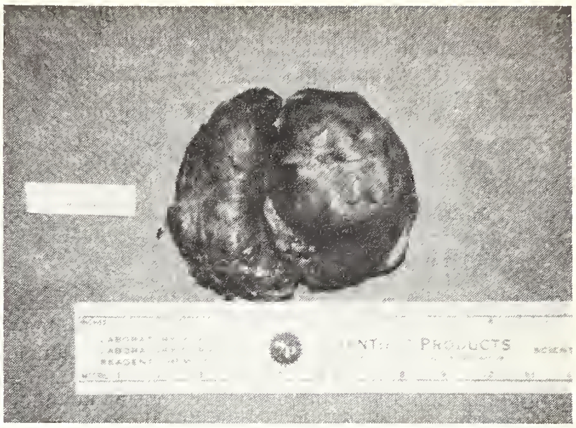


Fig. 3

The specimen was submitted to pathology in total and was reported as an ovoid mass of tissue 5.5 cm by 3.5 cm in diameter. It was covered by a capsule which was less than 1 mm in thickness (Fig. 3). The bisected specimen showed presence of soft hemorrhagic reddish-tan to gray material with areas of hemorrhage and central necrosis. On microscopic examination, the tumor was seen to consist of small

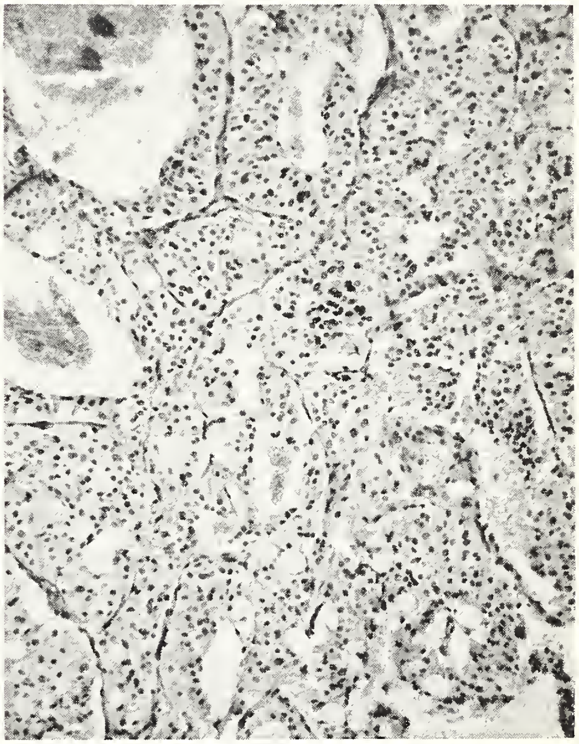


Fig. 4

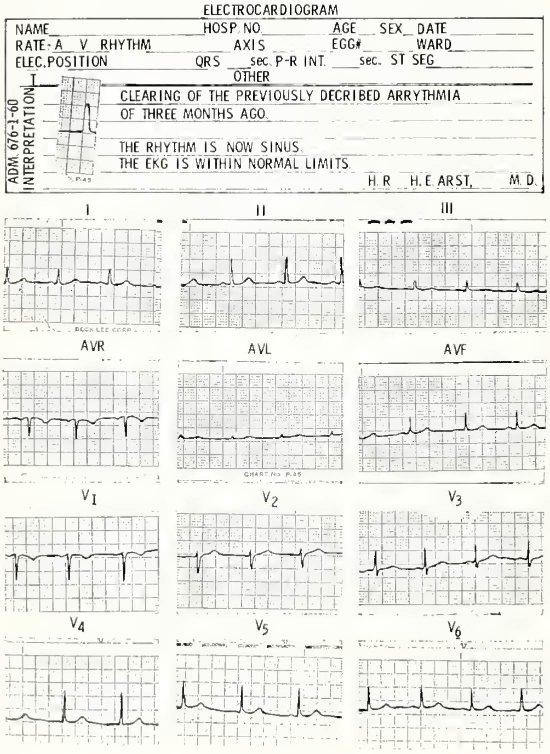
bundles and masses of relatively uniform cells which in some areas formed almost acinar structures, with a central vascular channel and red blood cells. The small bundles of cells conformed to the typical Zellballen pattern frequently described in tumors of this nature. Mitotic figures were extremely rare. The tumor was highly vascular (Fig. 4).

The tumor tissue was minced and found to be negative for catecholamine. The chromate reduction test was also negative. Twenty-four hour urinary 5-HIAA and catecholamine determinations were repeated approximately three months after operation. Both were found to be within normal limits. An electrocardiogram taken three months post-operatively showed clearing of the previously described arrhythmia. A sinus rhythm was present. The tracing was reported as normal (Fig. 5).

Approximately three weeks post-operatively, the chest film was interpreted to be within normal limits (Fig. 6). Three months after surgery, the patient was found to be asymptomatic with a blood pressure of 100/50.

Discussion

Chemodectomas of the mediastinum have been described as being encapsulated, highly vascular tumors which are generally benign and show a three-to-one preference of females over males, according to Pachter.[6] These tumors are resistant to radiotherapy, and surgery is often difficult because of their high vascularity and their tendency to be associated with large blood vessels that often surround them. Microscopically, they appear like tumors of other chemoreceptor bodies, typically demonstrating clusters of epithelial cells separated by strands of vascular connective tissue. Phillips[11] found arteriographic studies rewarding because of their high vascularity. Most of these tumors are picked up on routine radiographic examination and are asymptomatic. It is unusual for these to become necrotic because of their vascularity. The present case did show central necrosis, however.



ELECTROCARDIOGRAM

NAME HOSP. NO. AGE SEX DATE

RATE: A V RHYTHM AXIS EGG# WARD

ELEC. POSITION QRS sec. P-R INT. sec. ST SEG

OTHER

ADM. 676-1-60 INTERPRETATION

CLEARING OF THE PREVIOUSLY DECRIBED ARRYTHMIA OF THREE MONTHS AGO.

THE RHYTHM IS NOW SINUS.
THE EKG IS WITHIN NORMAL LIMITS.

H. R H. E. ARST, M. D.

Fig. 5

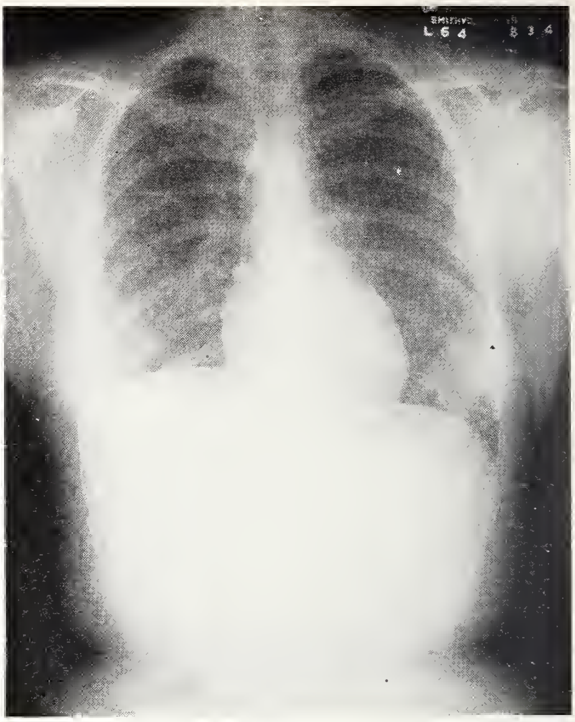


Fig. 6

Twenty-eight cases of mediastinal chemodectoma appeared in the literature by 1965 and were reviewed by Smithers.[7] The various sites of origin of intrathoracic tumors were described by Ashley.[8] He reported a fourth case whose origin was in the extrapleural tissue of the paravertebral sulcus. He reported a tumor in the left paravertebral sulcus similar to one described by Shaw and Kennedy.[9] Duncan and McDonald[10] have reported two cases in which the tumor was located in the right paravertebral sulcus. They report a chemodectoma in an 18-year-old male who, to our knowledge, is the youngest person prior to the present report to have an intrathoracic chemodectoma located in the paravertebral sulcus. Duncan and McDonald[10] postulated that since their cases were in close relationship to the descending aorta, these might have arisen from small collections of chemoreceptor cells located in the adventitia of the aorta.

Our case represents unusual features in that the location in the posterior sulcus was not at the known aortic body chemoreceptor sites. The tumor was not related to large blood vessels and it would seem unlikely that it arose from previously described aortic body chemoreceptors. It is also the first case of a benign chemodectoma to be reported in a person only 15 years old. Gillis[12] removed a chemodectoma located on the anterolateral aspect of the right lower lobe of the lung from a 7-year-old patient, which later proved to be malignant.

Although the pre-operative, 24-hour urinary catecholamine was elevated, the mild clinical symptoms and the lack of hypertensive episodes while in the hospital, along with the absence of catecholamines in the gross tissue, lead us to believe that the urinary measurement of catecholamine was falsely elevated due to contamination, as reported by the pathologist. We feel that the sweating episodes may have been due to the proximity of the tumor to the sympathetic chain, which by direct pressure caused sympathetic stimulation. It is believed that this same mechanism may be responsible for the abnormal electrocardiographic findings before surgery as evidenced by the normal tracing post-operatively.

Summary

A rare tumor (Chemodectoma) located in an unusual site (paravertebral sulcus) is reported in a 15-year-old white female. This is the fifth case of this tumor in this location to be reported in the literature. To our knowledge, this is the first benign intrathoracic chemodectoma reported in this young age group. Analysis of the tumor did not reveal the presence of catecholamines.

Acknowledgement: The authors wish to thank Dr. Louis Allen, Pathologist at Smithville Community Hospital, and Dr. Sherwood A. Baker, Professor of Community Health and Medical Practice, University of Missouri, for their work and cooperation.

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Unpredictable Response (Cont'd)

the atrial rate. In order to facilitate the sympathetic influence of exercise, the patient was given atropine, which has a parasympatholytic effect upon the AV node, but failed to abolish the AV block as did the combination of atropine and exercise. On the other hand, when small amounts of isoproterenol were given sublingually, there was an effect on the AV node conduction and on the conduction through the left and right bundle branches. The time of maximum activity of isoproterenol was 30 minutes after its administration, the time at which Valsalva maneuvers could no longer produce the AV block. The paradox of the chronotropic action of isoproterenol was that in the presence of a normal AV conduction, the isoproterenol, given in the same amounts as when the AV block was present, sometimes failed to protect the AV node from vagal stimuli which caused a complete block. The most remarkable phenomenon occurred when the patient developed transient ventricular arrest without warning, i.e., without the occurrence of a second or third degree AV block. At one time, exercise did not prevent this from happening. On the other hand, the ventricular arrest could not be elicited with the same type of maneuvers thereafter.

Summary

A case is reported demonstrating that the AV block produced by ostium primum repair may be intermittent. Observations on the patient showed that the usually well established pharmacological actions of exercise, isoproterenol, atropine and vagal stimuli acted in a very unpredictable manner on the AV node conduction.

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BERNARD PODURGIEL, *St. Louis*

Pyelonephritis and the Immune Response

A Review

THE IMMUNE RESPONSE of the human body to bacterial infections of the urinary tract was first observed by Pfaundler in 1898. He observed the agglutination of E. coli isolated from the urine of patients with cystitis or pyelonephritis with the patient's own serum, but not with the serum of other patients without infection. Siede and Luz obtained similar results when using the patient's own strain. Hees also observed similar phenomena when using "particular" test strains from the laboratory. All of the above studies were done prior to the immunologic classification of the coliform organism by Kaufman. Kaufman's scheme of classification is based on the presence of heat stable somatic O-antigens in the coliform organism. Needle, Neter, Staubitz and Bingham were the first to report O-specific hemagglutinins in a few patients with infections of the urinary tract. The earlier studies had been done with live or formalin killed organisms and probably detected H or K-antibody in place of somatic O-antibody.[1]

The presence of a common antigen among the Enterobacteriaceae was first discovered by Kunin in 1962.[2] Kunin showed that antigens of E. coli 014 injected into rabbits could elicit an antibody response which would agglutinate sheep erythrocytes coated with lipopolysaccharides or crude O-antigens of a wide variety of E. coli and other Enterobacteriaceae, but would not produce heterologous bacterial agglutination or precipitin formation. "Inhibition and absorption studies suggest that the observed phenomena are due to a hapten associated, but not necessarily identical, with the crude endotoxin moiety of Enterobacteriaceae which is so structured in E. coli 014 as to be able to induce antibody formation."[3]

It has been concluded by recent studies that homologous antigen (O-antigen) cannot be substituted with common (Kunin) antigen in the study of the serologic reaction of patients with E. coli urinary tract infections. It also does not seem necessary to take precautions to neutralize antibodies to common antigen before estimation of type specific O-antibodies is performed on the sera of patients.[4] These recent findings by H. J. Andersen (1966) are consistent with earlier studies by Vosti *et al* in 1964. In the studies of Vosti *et al,* "The occurrence of both O and non-O specific antibody in a human serum was demonstrated by differential absorption. Non-O specific antibody did not interfere significantly with the measurement of O specific antibody in the sera of normal or diseased patients when red cells sensitized with either pure or crude extracts were employed."[5]

In summary, it can be concluded that at the present time there are two significant antibodies produced by infection of the urinary tract with Enterobacteriaceae. These are the antibodies against (1) somatic O-antigen and (2) the common antigen of Kunin.

SOMATIC O ANTIGEN

"The demonstration of circulating hemagglutinins in the serum of an individual with infection due to coliform bacteria has little diagnostic significance. O-specific agglutinins for most serogroups of E. coli arise quite early in childhood, persist throughout life and are considered to represent a response to bacterial or plant antigens which enter from the gastrointestinal tract."[6] The presence of these hemagglutinins in normal serum of most patients demonstrates the importance of showing a significant *rise* and *fall* of antibody in order to document new antigenic stimulation.[7] The clinical significance of the O-antibodies is demonstrated in the studies of Sanford *et al* and Winberg *et al*.[8, 9]

Sanford states, "Hematogenous pyelonephritis was produced in rats utilizing multiple strains of Escherichia coli, a strain of Klebsiella pneumoniae and a strain of Proteus mirabilis."

Three patterns of hematogenous pyelonephritis occurred which represent an interrelationship between an immune response of the infecting bacteria and the development of obstructive uropathy as a consequence of infection.

First, the course of pyelonephritis due to strains of Escherichia coli was acute, self limited and associated with the development of circulating agglutinins. Following healing, this pattern of infection was associated with acquired resistance to reinfection with the same bacterial strain. Second, the course of pyelonephritis due to a strain of Klebsiella pneumoniae type C was chronic. This infection was not associated with the production of circulating agglutinins against encapsulated strains. Acquired resistance to reinfection by the homotypic strain could not be demonstrated following eradication of infection, but it was produced by the passive transfer of concentrated antiserum. Third, pyelonephritis due to Proteus mirabilis was associated with circulating agglutinins and resistance to reinfection with the same organism following eradication of infection, yet the course was chronic. The chronicity appeared to be the consequence of obstructive uropathy resulting from calculi which developed during the course of the infection.

Resistance to reinfection was demonstrated in infections with strains of E. coli and P. mirabilis. The resistance is associated with specific immunity as demonstrated by the observation that (a) it is type specific, (b) it is of at least three months' duration and (c) it can be passively transferred by means of rabbit antiserum. Since K. pneumoniae failed to evoke capsular antibodies in the rat, resistance to infection with K. pneumoniae was produced only by means of passively transferred concentrated antiserum and not by proir infection.

Immunity can be demonstrated to have a significant role in the pathogenesis of experimental hematogenous pyelonephritis only in the absence of obstructive uropathy."[10]

Winberg states, "In acute infections with lowered concentration capacity (pyelonephritis), there was a marked and rapid antibody response (except in patients below the age of two months), whereas in acute infections with normal concentration capacity (pyelitis and/or cystitis), there was no definite change in the antibody titre. This might permit differentiation between infections with and without involvement of the renal parenchyma. In patients with chronic, indolent bacteriuria and pyuria, the titres were raised. This might suggest a parenchymal process in these cases. A close correlation between clinical course and the titre is demonstrated in several cases."[9]

HETEROLOGOUS ANTIGEN (COMMON ANTIGEN)

The heterologous antigen was first discovered by Kunin in 1962.[2] It was isolated in the purified state by him in 1963.[11] However, in his experiments, the purified common antigen did not elicit an immunologic response when injected into experimental animals. He concluded that "The most important property of this antigen thus far determined appears to be its interference with the specificity of the hemagglutination test commonly employed to measure antibody to O antigen of Enterobacteriaceae."[11] In 1964, Suzuki, Gorzynski and Neter isolated the purefied form of the common antigen by a method different from that previously used by Kunin in 1963.[12] Their preparations of common antigen were capable of eliciting an immune response when injected intravenously into rabbits. It may be assumed, also, that crude culture supernatant fluids from enteric bacteria other than E. coli 014 contain common antigen inhibitor complexes. Such an assumption is different from the theory proposed by Kunin *et al* (1962), who postulated that common antigen is present as a hapten in bacteria other than E. coli 014. The question arises whether or not it is the O antigen (lipopolysaccharide) that acts as inhibitor.[12] Subsequently, Suzuki *et al* reported identification of the lipopolysaccharide (O antigen) as the inhibitor of the common antigen. At this time, the mechanism of this inhibition remains to be elucidated.[13]

The immune response of the human body to bacterial infections of the urinary tract was first observed by Pfaundler in 1898. The author reviews work that has been done, with emphasis on recent discoveries of antigens. He concludes that, at the present time, there are two significant antibodies produced by infection of the urinary tract with Enterobacteriaceae. This paper was prepared by Mr. Podurgiel in partial fulfillment of the requirements for the Senior Clerkship in the Department of Internal Medicine, St. Louis University School of Medicine.

In 1963, Whang and Neter studied heterologous antibodies (Kunin antibodies) in the serum of healthy subjects and children with enteric urinary tract infections.[14] They concluded that "(1) Both serum from healthy blood donors and commercial gamma globulin preparations from various countries contain this antibody, although in relatively low titers; (2) During enterobacterial infections (shigellosis, salmonellosis and enteropathogenic E. coli enteritis), the titer of heterogenic antibodies increased in approximately one-third of the patients studied, but the homologous O-antibody response was of a greater magnitude; (3) The serum of a few children with chronic pyelonephritis contained heterogenic antibodies in relatively high titers, and this level was maintained over a period of a year; (4) Injection of an enteropathogenic E. coli vaccine into pregnant women resulted in a minimal increase in heterogenic antibodies in approximately one third of the subjects studied; (5) Heterogenic antibodies may be present in cord blood, although the titers were significantly lower than those of the corresponding maternal blood."[14]

In April, 1966, H. J. Andersen, studying the problem of possible cross reaction of Kunin antibodies with somatic O-antibodies in parenchymal infections of the genitourinary tract with E. coli, concluded, "The results of this study show that no significant relation can be demonstrated between the titer of antibodies to common antigen and to specific O antigens in overt cases of pyelonephritis. It is thus not possible to replace the use of the specific O antigen with common antigen in the demonstration of the serologic reaction of patients with infections caused by E. coli. Further, it appears obvious from the small or absent reduction in the titer of specific antibodies on inhibition with common antigen that special precautions with regard to common antigen are not necessary, at least not in clinical studies concerned with longitudinal determinations of these antibodies."[4]

CLINICAL SIGNIFICANCE OF COMMON ANTIGEN

At present, there are no reliable diagnostic procedures to determine if patients with urinary tract infections definitely have parenchymal involvement. If it were possible to demonstrate the presence of a common antibody in response to all infections with Enterobacteriaceae, such investigation could be a valuable diagnostic technique. A laboratory with a stock supply of common antigen would only have to determine the respective serum antibody level. It would be hoped that from such determinations a correlation between the level of antibody response and parenchymal infection might be made. Unfortunately, at present this hypothesis is not sufficiently developed to be useful in the clinical evaluation of urinary tract infection.

SUMMARY

There are two significant antibodies produced by infection of the urinary tract with Enterobacteriaceae: (1) The common (Kunin) antibody against the common (Kunin) antigen and (2) the somatic O-antibody against the somatic O-antigen as defined by Kaufman.

Common (Kunin) Antibody

The common (Kunin) antibody at the present time has no proven clinical significance and appears only of academic interest. The presence of common antibody in the serum of a patient does not interfere with the determination of somatic O-antibody titers in the same serum.

Somatic O-Antibody

(1) The somatic O-antibody does appear to have clinical significance.

(2) Demonstration of rising titers from low to high during an episode of acute urinary tract infection appears to indicate parenchymal involvement rather that cystitis or pyelitis.

(3) High titers are associated with a less severe course of infection and an acquired temporary resistance to reinfection with the same strain, provided that no obstructive uropathy or anatomical derangements have taken place during the initial phase of the infection.

(4) Persistently elevated titers following an episode of acute infection are frequently associated with the development of chronic renal infection.

(5) The hemagglutination test for detecting O-antibodies in patients with E. coli infection of the urinary tract is expensive and time consuming and, as such, is impractical for everyday medical use at the present time.

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HOWARD E. LINVILLE, M.D., *Kansas City*

The Diagnosis and Management of Upper Gastrointestinal Bleeding

A Review

Whenever the physician encounters a patient with upper gastrointestinal bleeding, two difficult problems are immediately presented. First, there is the task of localizing the source of bleeding and making an accurate diagnosis. Next, there is the problem of management, whether it be medical, surgical or a combination of the two methods.

To study these problems, a series of 219 patients with upper gastrointestinal bleeding was reviewed. These patients were consecutive admissons to Baptist Memorial Hospital in Kansas City, and all were admitted to that hospital between March 1, 1963, and March 1, 1966. Baptist Memorial Hospital is a private community hospital and during that period of time had approximately 300 beds.

Etiology

As summarized in Table 1, there were 95 patients with upper gastrointestinal bleeding due to duodenal ulcer, 29 due to gastric ulcer, 67 in which the exact site of bleeding was undetermined and six with stomal (gastrojejunal) ulcer. Eleven patients had upper gastrointestinal bleeding due to tumor. Of these tumors, nine were malignant and only two were benign. The nine malignant tumors consisted of six gastric carcinomas and three esophageal carcinomas. All of these patients are known to be dead or have evidence of recurrent disease at the present time.

Eleven patients had upper gastrointestinal bleeding from esophageal varices. Of this group, six died either of their hemorrhage or of some other complication.

Massive Bleeders

After excluding tumors and esophageal varices as a source of bleeding, there remained 197 cases for review (Table 2). Of these, 78 were considered to be massive bleeders (Table 3). Patients were considered to have massive upper gastrointestinal bleeding when they exhibited clinical signs of shock with a hematocrit of 28% or less.

In this group, there were 35 cases of proven duodenal ulcer. Five of these patients died for a mortality rate of 14.3%. Another 26 patients bled massively from a site that was not exactly

TABLE 1

219 CASES OF
UPPER GASTROINTESTINAL BLEEDING
BAPTIST MEMORIAL HOSPITAL
KANSAS CITY, MO.
March 1, 1963 to March 1, 1966

CAUSE	NO. of CASES	PERCENT
DUODENAL ULCER	95	43.3
GASTRIC ULCER	29	13.3
EXACT SITE UNDETERMINED (PREDOMINANTLY DUODENAL ULCER)	67	30.6
GASTROJEJUNAL (STOMAL) ULCER	6	2.8
MALIGNANT TUMORS	9	4.1
BENIGN TUMORS	2	0.9
ESOPHAGEAL VARICIES	11	5.0
TOTAL	219	100.0

TABLE 2

ETIOLOGY OF
UPPER GASTROINTESTINAL BLEEDERS
(EXCLUDING TUMORS & VARICIES)

DIAGNOSIS	NO. of CASES
DUODENAL ULCER	95
EXACT SITE UNDETERMINED	67
GASTRIC ULCER	29
GASTROJEJUNAL or MARGINAL ULCER	6
TOTAL	197

TABLE 3

MORTALITY RATE OF
78 MASSIVE UPPER GI BLEEDERS
EXHIBITING CLINICAL SIGNS OF SHOCK
WITH A Hct OF 28% OR LESS

DIAGNOSIS	NO. of CASES	NO. of DEATHS	MORTALITY
DUODENAL ULCER	35	5	14.3%
EXACT SITE UNDETERMINED	26	9	34.5%
GASTROJEJUNAL ULCER	0	0	0.0%
GASTRIC ULCER	17	1	6.0%
TOTAL	78	15	20.0%

determined. There were nine deaths in this group for a mortality rate of 34.5%. Seventeen patients bled massively from a gastric ulcer, with one death for a mortality rate of 6.0%. Contrary to many other reports, none of the patients having a gastrojejunal ulcer bled massively and there were no deaths in that group.

Table 4 shows the distribution and mortality rate of all cases according to the age of the patient at the time of hemorrhage. There was one death in the 40-49 age group, one death in the 50-59 age group and three deaths in the 60-69 age group. There were five deaths in the 70-79 year age group for a mortality rate of 11.5%. There were ten patients over 80 years of age and five of these died, a 50% mortality rate. If we consider all cases of massive bleeding as a group, the mortality rate is 20%.

Medical Management

There were 62 patients who were treated medically. Any patient who did not undergo emergency surgery was considered to have been managed medically (non-operative). This, however, is somewhat misleading, since five of the deaths in this group occurred in patients who were actually terminal at the time of admission and did not receive a single transfusion (Table 5).

TABLE 4

DISTRIBUTION OF
197 CASES OF UPPER GI BLEEDING
(EXCLUDING TUMORS & VARICES)

AGE	MASSIVE BLEEDERS	MILD BLEEDERS	DEATHS	
0-19	2	2	0	—
20-29	5	10	0	—
30-39	7	15	0	—
40-49	11	16	1	4%
50-59	13	33	1	2%
60-69	12	26	3	8%
70-79	23	12	5	11.5%
80-89	5	5	5	50%
TOTAL	78	119	15	7.6%

TABLE 5

5 TERMINAL CASES TREATED MEDICALLY
ALL BLED MASSIVELY

AGE	SEX	CONCOMITANT DISEASES	TRANSFUSED
59*	♂	CEREBRAL HEMORRAGE, STRESS ULCER	NO
77	♀	UREMIA; CHRONIC PYELONEPHRITIS TERMINAL ON ADMISSION	NO
62*	♂	OBESITY, A.S.H.D., EMPHYSEMA, SCHIZOPHRENIC c̄ SUICIDAL TENDENCIES	NO; DIED IMMEDIATELY AFTER ADMISSION - (HAD BEEN IN BEFORE)
85*	♀	A.S.H.D.; DIABETES	NO
84	♀	A.S.H.D.; PNEUMONIA	NO

*AUTOPSY OBTAINED

Table 6 summarizes the remaining eight deaths which occurred in the medically managed group. All of these patients received multiple transfusions and other supportive measures. Table 6, however, readily shows that other serious concomitant disease was present in every case.

TABLE 6

8 DEATHS FROM MASSIVE UPPER GI BLEEDING
ALL TREATED MEDICALLY

AGE	SEX	CONCOMITANT DISEASES	TRANSFUSED
65*	♂	STRESS ULCER AFTER 2 PREVIOUS OPERATIONS FOR PANCREATITIS	YES
88	♂	A.S.H.D.; METASTATIC Ca OF PROSTATE	YES
85	♀	A.S.H.D.; Fx L. FEMORAL NECK	YES
79	♀	C.V.A.; TRACHEOSTOMY	YES
76	♂	A.S.H.D.; DIABETES	YES
62	♂	METASTATIC Ca OF KIDNEY	YES
89	♂	C.V.A.; Fx L. FEMORAL NECK	YES
78	♀	A.S.H.D.; LIVER DISEASE; ASCITES; ? METASTATIC DIS.	RESPONDED TO TREATMENT FOR AWHILE; FAMILY REFUSED SURGERY

*AUTOPSY OBTAINED

Surgical Management

There were 16 emergency surgical procedures performed to control massive bleeding. Most of these cases had some type of preliminary medical management prior to surgery. In each of these cases, however, operation was necessary to stop the bleeding. Table 7 summarizes these cases. There were two deaths in this group for a mortality rate of 12.5%. One of these deaths occurred in a 47-year-old female who had a vagotomy, ligation of the bleeding vessel and pyloroplasty. Post-operatively the patient bled again. She was re-explored and a bleeding vessel found and ligated. At post-mortem, an open vessel was found. The second death occurred ten days post-

Concomitant disease is the major factor determining the outcome of the patient with massive upper gastrointestinal bleeding. A review of 219 patients with upper gastrointestinal bleeding and the results of both medical and surgical management in a modern community hospital. The author emphasizes the limitations of X-ray in the diagnosis and recommends an increased use of endoscopy. He also presents outlines for early diagnostic management and for selection of cases for emergency surgery. Doctor Linville is in the private practice of surgery.

TABLE 7

16 EMERGENCY SURGICAL PROCEDURES FOR MASSIVE UPPER GI BLEEDING

TYPE OF SURGERY	NO. of CASES	DEATHS
LIGATION OF VESSEL c̄ PYLOROPLASTY & BILATERAL VAGOTOMY	8	2
SUBTOTAL GASTRECTOMY	4	0
BILATERAL VAGOTOMY c̄ HEMI-GASTRECTOMY	2	0
BILATERAL VAGOTOMY c̄ GASTROENTEROSTOMY	1	0
WEDGE RESECTION c̄ PYLOROPLASTY	1	0
TOTAL	16	2

operatively in a 70-year-old female who had had a vagotomy, ligation of the bleeding vessel and pyloroplasty. No autopsy was obtained, but the clinical diagnosis was acute myocardial infarction.

Table 8 summarizes the deaths according to the method of management.

TABLE 8

MORTALITY RATE OF 78 MASSIVE* UPPER GI BLEEDERS

* THESE PATIENTS EXHIBITED CLINICAL SIGNS OF SHOCK AND HAD A Hct OF 28% OR LESS.

METHOD OF MANAGEMENT	NO.	DEATHS	MORTALITY
MEDICAL	62	13	21.0%
SURGICAL (EMERGENCY PROCEDURES TO ACTUALLY CONTROL BLEEDING)	16	2	12.5%
TOTAL	78	15	20.0%

Discussion

A true comparison of one group of patients with massive upper gastrointestinal bleeding with any other reported group of patients is not really possible due to many variables. However, it seems reasonable to state that the overall results in this group of patients compare favorably with those results reported by many others.[1-5] In those patients treated by medical management only, other serious concomitant disease appears to be the major determining factor in the final outcome.

The exact site of bleeding could not be determined in a significantly high number of patients, a total of 67 patients or 30.6% of the entire 219 cases. Therefore, the results of X-ray examination in this group were reviewed (Table 9). This reveals that only 41.1% of all cases could be reported positively as "diagnostic" by the radiologist, while another 26.9% were reported as "questionable." Together, these two groups represent 68% of the total and are within the range reported by others.[3] This study would indicate that an increased use of endoscopy is desirable. Palmer[6] has reported only 10.3% of 650 patients in which an exact bleeding site could not be determined when he used his vigorous diagnostic approach. Hedberg[7] recently reported an accuracy of diagnosis of 87% in 93 massive bleeding patients when both X-ray and endoscopy were used. His procedure for early diagnosis is recommended. It is as follows:

1. Clinical examination (history and physical)
2. Levin tube:
   a) If blood is found, immediate endoscopy.
   b) If blood is not found, upper gastrointestinal series.
3. If patient gives history of questionable upper gastrointestinal bleeding, but has not had hematemesis *or* blood is not found on aspiration:
   a) Sigmoidoscope first.
   b) Then get barium enema.
   c) If above are negative, get upper gastrointestinal series and endoscopy later.

The early surgical results in this series compares favorably with other reported results.[4] The variety of procedures performed reflects the varied approach by different surgeons. The type of surgical procedure performed had little effect on the immediate short term results. Actually, both surgical deaths occurred in patients who

TABLE 9

VALUE OF X-RAYS AS A DIAGNOSTIC PROCEDURE IN 219 CASES OF UPPER GI BLEEDING

DIAGNOSIS	NO. of CASES	X-RAYS			
		DIAGNOSTIC	? VALUE	NO VALUE	NOT TAKEN
DUODENAL ULCER	95	53	25	9	8
SITE UNDETERMINED	67	5	28	24	10
GASTRIC ULCER	29	16	2	9	2
GASTROJEJUNAL ULCER	6	3	—	2	1
ESOPHAGEAL VARICIES	11	7	1	1	2
MALIGNANT TUMORS	9	6	1	1	1
BENIGN TUMORS	2	1	—	1	—
TOTAL	219	91	57	47	24

had had vagotomy, ligation of the bleeding vessel and pyloroplasty. In spite of these findings, one must still consider this the procedure of choice in view of reports in other series.[3, 4, 8–10]

Whenever a patient with massive upper gastrointestinal bleeding is seen, early surgical consultation should be obtained as one out of five will require emergency surgery. The following outline for selection of patients for emergency surgery is recommended:

1. When the patient's condition remains unstable after an initial transfusion of 1500 cc of whole blood and there is evidence of continued bleeding.
2. When hemorrhage recurs after apparently adequate medical management.
3. When prolonged bleeding requires more than 500 cc of whole blood daily to maintain stability.

SUMMARY

1. A series of 219 patients with upper gastrointestinal bleeding is reviewed.
2. The results of both medical and surgical management of upper gastrointestinal bleeding in a modern private community hospital compare favorably with results that are reported generally.
3. Concomitant disease is the major factor determining the outcome of the patient with massive upper gastrointestinal bleeding.
4. The age at which a patient bleeds plays little importance until the age of 70.
5. There was a 50% mortality rate in those patients over the age of 80. The bleeding then is often due to a stress ulcer as a terminal process in other diseases.
6. The type of surgical procedure performed had little effect on the immediate short term result. Actually, both surgical deaths occurred in patients who had had vagotomy, ligation of the bleeding vessel and pyloroplasty.
7. X-ray has definite limitations in the diagnosis of upper gastrointestinal bleeding.
8. An increased use of early endoscopy in upper gastrointestinal bleeding appears indicated.
9. An outline for early diagnostic management of the patient suspected of upper gastrointestinal bleeding is presented.
10. An outline for the selection of patients for emergency surgery is given.

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F. R. CROUCH, M.D., ***Farmington***

Paracervical Block: A Useful Method of Obstetric Anesthesia

> *A woman when she is in travail hath sorrow, because her hour is come: but when she is delivered of the child, she remembereth no more the anguish, for the joy that a man is born into the world. (John 16:21)*

Case Report

"THIS IS THE MOST WONDERFUL THING that has ever happened to me. I've enjoyed every minute of it."

Thus spoke a 21-year-old primigravida on the delivery room table. But, to that moment of complete dilatation of the cervix, she had received no medication to ease the discomfort of her contractions. Furthermore, she had had an uneventful and happy pregnancy during which she was given the usual prenatal care without special instructions, exercises or other indoctrination.

"I don't want anything for pain. I read Doctor Reed's book[1] before my first baby, and I haven't had anything for any of them then or since. I want to feel everything, even if you need to sew me up." These were the words of a 35-year-old gravida 7, as she labored once more on her task of love.

It seems a bit presumptuous to be engaged in the act of compiling statistics on a method of anesthesia in childbirth, while at the same time being allowed the privilege of serving such people as the foregoing two. Food for contemplation as to the role and efficacy of any method of pain relief is provided by the attitudes of such individuals. The tremendous variable of human feelings, or the lack thereof, cannot be eliminated from any such evaluation, and this feature, unique to childbirth, beclouds the value of cold statistics.

The following method of handling the vast majority of women who do indeed require relief of pain during labor has evolved over an extended period of time in a private obstetrical practice originally diluted by the unpredictable demands of general practice in a large rural area. During the waning years of the late great depression (1939 to 1942), I was only on rare occasions accorded the luxury of managing labor in a hospital. Much more often, rural obstetrics was an endurance contest for both doctor and mother. With adequate help from God, the absence of cleanliness, plumbing, electricity, heat and/or air conditioning somehow was not crucial in most instances. With grandma dropping chloroform on a loosely applied mask and being aided by a special brand of fortitude inherent in the female, the little one usually arrived in spite of adversity, as has happened repeatedly since our origins in time.

After World War II and a few years of office deliveries, hospital deliveries became a rule, surely a life-lengthening one for all concerned. The chloroform bottle and mask no longer traveled with the doctor, and most Generalists were able to relegate the "OB bag" with its copper sterilizer and large array of horrifying instruments-of-necessity to storage closet or museum.

There followed several years during which I personally did caudals and saddle blocks, but mainly relied on meperidine* and promethazine† as analgesics during labor and used a combination of pudendal block and a few whiffs of nitrous oxide for delivery. Time requirements during the caudal program were a major problem in the absence of a resident hospital staff, although the results were very satisfactory. Saddle block, a method proved safe over the years in most reported series, was found especially useful when there was need for rapidly effective, last-hour-or-minute anesthesia with minimal risk to the fetus and newborn. Probably the most effective criticism of the method locally is the lay aversion to a "spinal." The busy-bodies do not differentiate between caudals and saddles in their relentless attack and confusion, in spite of careful explanations. More professional deterrents to the use of saddle blocks have been the need for special set-up and observation, the occasional incidents of post-spinal headache, the necessary period of bed-rest postpartum (conflicting with the program of early ambulation) and the rare threat of more serious neurologic complications. It was therefore a most welcome development when I first heard of paracervical blocks and their use in obstetrics.

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* Demerol Hcl., Winthrop.
† Phenergan, Wyeth.

History

First report of the use of paracervical block in obstetrics was in Germany by Gellert in 1926.[2] This recorded the use of 1% procaine, 10 cc bilaterally in a total of 30 cases. The first American to report its use was Rosenfeld in 1945, a series of 100 cases.[3] More reports appeared in 1956 and, in 1961, the work of Kobak and Sadove[4] and that of Page, Kamm and Chappell[5] brought more publicity and further attention to this rather simple, but quite effective, method of pain relief.

Technique

The method used consists of injecting from 10 to 15 cc of a dilute anesthestic agent (1% Lidocaine)* into the uppermost portion of the lateral fornices at between 8 and 9 o'clock on the patient's right and 3 and 4 o'clock on the left, if one uses the face of a clock as a reference. The injections are given sufficiently shallow so that one can feel the bleb forming as the medication is injected. Careful aspiration for blood is done before injection is initiated and once or twice during its course. The bleb formation not only assures a degree of success, but also is further evidence that the injection is not intravenous. Injections are staggered so that one or two contractions are allowed to occur after the first side is injected. This enables one to check the effectiveness of the block (one sided pain) and to be further assured regarding intravenous injection and drug idiosyncrasy. Checking the fetal heart as well as the maternal blood pressure can be done in this interval. However, if delivery is imminent when one first has the opportunity to block the patient, it is perfectly safe to omit this interval as long as the usual precautions are taken. In fact, this situation in itself is one of the major advantages of paracervical block when compared with saddle block, where one has mechanical blood pressure problems to face, and general anesthesia, where fetal asphyxia can be a problem of hurried or unskilled emergency anesthesia.

Pudendal block to anesthetize and relax the lower birth canal can be done simultaneously, or it can be done at the second or third block if the initial paracervical block is done relatively early in labor.

Timing of the block varies from using it as a means of resting and relaxing a tired and tense primigravida who is in mid-labor with no more than 4 cm dilatation to the above rapidly-developing situations. However, the optimal time for primigravida appears to be at about 7 to 8 cm dilatation, and for multigravida at about 5 or 6 cm. Frequently, a second block will be necessary in the primipara, if not a third. When difficult procedures with delayed delivery have been necessary, I have given even more blocks at one hour intervals (as many as seven in one case).

All blocks are done with the patient in the lithotomy position on the delivery table. It is true that many have been done with the patient in bed and employing "the usual precautions of sterile technique." I have not been convinced to date that genuine sterile technique can be employed with a patient in bed, frequently a bed contaminated with urine, blood and feces. Add to this the necessity of accurate placement of the needle and holding it there for a long enough time to make careful aspirations and injections. No fetal injections have occurred in this series or since.

After a few tries with the Kobak needle, I have uniformly used the "Iowa Trumpet"[6] for all injections from paracervical to pudendal blocks to local perineal anesthesia. It is handled easily once one is used to the thumb ring. The free hand is assigned only the task of handling the control syringe and needle. The depth of penetration of the needle can be varied easily in order to be sure of bleb formation by injection. Not injecting the agent unless the bleb is felt not only assures success, but anatomically eliminates the problem of injecting the agent too deeply.

Case Reports

Between August, 1962, and October, 1964, five hundred paracervical blocks were done. At first they were done on occasional cases chosen at random. In the last 18 months or so of this time, they were done routinely. Incidentally, a Caesarean section rate of 2.2% was compiled during this time. No patients who were sectioned had received paracervical blocks preceding the decision. Evaluation of the blocks is given below. Rating is based on my own impressions and observations, sometimes augumented by solicited or unsolicited testimony from the patient. Complete objectivity regarding pain seems to me to be a superficial attempt to estimate a completely subjective matter quantitatively.

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* Xylocaine, Astra.

For example, Case # 215 and # 216 was a graduate nurse. In her first delivery, she was given a paracervical block which was excellent for delivery. Following the normal low forceps delivery and during the repair under pudendal block, she was given intravenous meperidine and propiomazine. This resulted in drowsiness and, later, in amnesia for the whole affair, especially the moment immediately after delivery when she was wide awake and saw and admired her baby. This disappointment clouded her entire estimate of the anesthesia. Her second delivery, without preceding or following analgesics, was more painful but happier.

Which rated a really excellent score?*

Results

An attempt is made to divide the results into the following categories:

Excellent—Complete freedom from pain from the moment the block was done until after the delivery.

Good—Greatly decreased but slight pain on one side or in the back, plus the need for a whiff or two of nitrous oxide and oxygen anesthesia as the presenting part crossed the perineum.

Fair—Indifference toward the result, although the block was definitely helpful.

Poor—Little or no relief of pain or relief too short to be considered worthwhile (less than one half hour).

Using these criteria, the cases were divided as follows:

	No.	*%*
Excellent	197	39
Good	210	42
Fair	68	13
Poor	27	6

Thus, if one considers as satisfactory those with excellent or good ratings, 81% could be considered worth doing. If the fair and poor ones are grouped as being unsatisfactory, then 19% probably were not worth doing. As usual, the cold statistics do not tell the whole story, but it is quite obvious that in general the technique has been a satisfactory one.

An evaluation of paracervical block in a series of 500 cases. The author discusses technique, complications and application of the method to special problems with emphasis on its value to physicians who practice obstetrics in a small hospital without the advantages of house staff or full-time anesthetist services. Now in private practice in Farmington and a member of the staff of Madison Memorial Hospital in Fredericktown, Doctor Crouch was a member of the staff of the Bonne Terre Hospital at the time this report was compiled.

Discussion

The paracervical block is effective only in relieving the discomfort of uterine contractions. It has no direct effect on sensation of pain in the lower birth canal, the rectum or the perineum. Also, it does not paralyze the accessory muscles normally used to expel the fetus and does not change the ability of the parturient to "bear down."

As nearly as possible, then, the 500 cases have been evaluated on the basis of the effect of the paracervical block alone. The over-all impressions are good, but the dependence on subjective reports from patients clouds this evaluation to a certain extent.

Meperidine and propiomazine were used either intravenously or intramuscularly in the earlier hours of the first stage and pudendal block was invariably done, either concomitant with the paracervical block or at the time of delivery. Both were frequently repeated, sometimes several times, before the moment of delivery when a few whiffs of nitrous oxide and oxygen were given as the presenting part crossed the perineum. Usually, after the placenta had been expelled, the patient was given meperidine 25 to 50 mg, with propiomazine 20 mg* and the oxytocic† intravenously to carry her through the period when sensation returned as the effect of the blocks disappeared.

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* Included in the series are a few who had blocks in successive deliveries, one of which would then not be in the time interval, August 1962 to October 1964.

* Largon, Wyeth.
† Methergine, Sandoz.

COMPLICATIONS

1. *Convulsions* Twice in my early experience with the method and when I was using a different anesthetic agent, my patient had generalized, one minute-long convulsions after the paracervical and pudendal blocks were repeated before a full hour had passed since the preceding one had been given. It is probable that an overdose was given. In neither instance was there any ill effect. Both cases were checked carefully regarding renal function and the possible presence of a toxemia, and no other cause was found. In one, where epilepsy was suspected, an electroencephalogram failed to reveal any abnormality. Since changing to Lidocaine 1% and being especially careful to regulate its dose and to avoid intravenous administration, no further convulsive complications have been encountered. (This includes at least 500 more cases since the above statistics were collected.) A check with the manufacturer of Carbocaine,[7] the anesthetic agent which I used originally, reported six instances of convulsions apparently due to excessive dosage or intravascular injection of this anesthetic agent. Fractional dose administration has been suggested as a means of lessening the likelihood of reactions of this nature.

2. *Fetal Bradycardia* In their discussion of combined paracervical and pudendal nerve blocks in 1961, Kobak and Sadove[4] mentioned that in their first 32 cases of combined block, epinephrine was included in the solution in order to prolong the anesthesia. They felt that the epinephrine, however, not only decreased the intensity of the uterine contractions, but was capable of "unpredictably" giving rise to fetal bradycardia. They, therefore, discontinued its use and found no further instances of bradycardia in the remaining 100 cases they reported.

However, Kaiser in 1950[8] was unable to produce bradycardia by giving epinephrine intravenously. Realizing that one of the established indices of fetal distress is fetal bradycardia, Davis *et al*[9] made an extensive study of it in their review of 2,100 private patients. The fetal heart rate was checked almost continuously at first, and recorded every ten minutes for one hour. Bradycardia occurred in 4.7% of the cases and was unaffected by the addition of epinephrine or an oxytocic agent. They could find no definite cause, but suggested vaginal manipulation, pressure on the fetal skull by the examining finger or artificial rupture of the membranes as possibilities. Those due to the block itself were attributed to a "vaso-vagal reflex." They felt that while the significance of this bradycardia was unknown, it did not indicate fetal distress. Cited were instances where infants were delivered during the bradycardia and shortly afterwards without evidence of fetal depression. On the contrary, the infants so delivered were frequently breathing and crying before delivery was completed.

The important point is that a careful evaluation be made in an effort to distinguish between bradycardia due to fetal distress and that which follows paracervical block and has no apparent relation to fetal distress. These findings were in general corroborated by the observations of Page *et al.*[5] They felt that some of these bradycardias were due to the maternal hypotension seen in the "supine hypotensive syndrome," and stated that turning the patient on her side in these cases usually brought the fetal heart tones back to a normal rate. Others, they felt, were due to too rapid absorption of the Lidocaine and that its entrance into the fetal circulation resulted in a depression of the myocardium. They said that the bradycardia was transient and "rarely accompanied by any other signs of fetal distress."

In the current series, no statistical record of fetal bradycardia was made. The phenomenon has been noted on occasion and, when present after the block, it has been observed to disappear spontaneously in a few minutes without special measures being taken. However, when bradycardia was noted before the block was done, it was attributed then to true fetal distress. Doing the block, and hastening the delivery therby, has been accompanied by oxygen inhalations during contractions and has resulted, in several instances, in prompt delivery of lively or easily-resuscitated infants, who might otherwise have died without this acceleration effect of the block. Doctor Davis[9] reports a situation in which, he felt, the block saved a life. This was in a multiparous patient with massive abruptio placenta. The vertex was at a +1 station, the cervix firm, but 6 cm dilated, and the fetal heart rate was 80 and irregular. While preparations were being made for a Caesarean section, a paracervical block was done. Prompt and easy vaginal delivery occurred in a much shorter time than that in which a section could have been performed, and the infant was easily resuscitated.

3. *Needle Injury to the Fetus* Page[5] reports raising a wheal on an infant's scalp in one of the early cases in his group's series. Taw, in discussing Davis's paper, told of a wheal being found on an infant's scalp, but also of the infant's intracranial cavity containing enough anesthetic

agent to produce death. He incidentally mentioned that this case was referred from a "small hospital!"

There have been no punctures of fetuses in this series of cases, nor in the additional unreported cases since. Using the proper landmarks in picking the site of the injection is easy. Not injecting the solution unless one can feel the wheal rising up under the index finger that should be at the beaded end of the needle guide (preferably the "Iowa Trumpet," in my experience) is important. But I believe that a strong point in attaining these goals both of safety and effectiveness is to do the procedure on the delivery room table with the patient properly prepared, adequately draped and in the lithotomy position. In most instances, she can then be taken out of lithotomy, but remain on the table until delivery occurs. Occasionally, when the block is done in mid-labor to attain rest and relaxation, she can be returned to her room. Either way, the principles of cleanliness and good positioning for an exact procedure have not been sacrificed to expediency.

4. *Infection* Only one case developed evidence of infection that might be attributable to the paracervical block. This occurred five weeks postpartum and was diagnosed as a generalized pelvic cellulitis characterized by fever, pain and pelvic tenderness. All subsided promptly on antibiotics without abscess formation or other residual.

No cases of infection are reported in either Doctor Davis's or Doctor Kobak's series, and I have serious doubt that the above episode was related to the blocks.

(5) *Fear* This complication is the result of many things. These range from family (especially maternal) propaganda about the horrible experience of childbirth to childhood-born fears of needles. Generally, I have felt that when a patient came to the point of the onset of labor and was afraid, this fact evidenced failure on my part during prenatal visits to detect these fears and to take measures to eliminate them. But I have decided that there are many exceptions to this rule, and this decision gives me a measure of comfort. At the same time, if prenatal care accomplishes little else, it should be a time of developing a good relationship between doctor and patient wherein she learns, as nearly as possible, the details of what happens after the onset of labor. The presence of the doctor whom she knows well during the latter part of the first stage, as well as for the delivery, is a product in rural practice of the absence of house staff and the geographical distances that must be traveled by both the patient and her doctor. This inconvenience may, therefore, be a blessing in disguise which enables one to provide special care of these patients through their labors and deliveries.

One hysterical reaction occurred in a girl who thought, somehow, that she ought to be feeling more pain, perhaps suffering more. She responded immediately to reassurance, and the patient was very happy with the rest of her labor.

There is still the patient, usually very young and primiparous, who will say "the needle hurt more than the pain!" Cheers for her. Such frank and constructive criticism keeps one from establishing unbending routines, from making too heady assumptions and from deciding that the final word has been said about this or any other method of dealing with humans and their feelings.

Management of Special Problems

Obstetrical difficulties are encountered where the use of paracervical block is particularly helpful.

A gravida 1 enters the hospital after 24 hours of labor in which, at the insistence of a midwife, she has been "bearing down" with each contraction since pain one. Examination reveals the cervix 6 cm dilated, thick, the vertex posterior and at station zero. She is told to stop pushing. Paracervical and pudendal blocks are done, and she stops hurting. Her contractions continue as her cervix thins out. After an hour, the dilatation is 8 cm and the blocks are repeated. The vertex rotates spontaneously to occiput anterior as dilatation becomes complete, and the delivery is continued in a perfectly normal manner.

Premature labor and the inevitable delivery of a compromised infant constitute an ideal situation for use of paracervical and pudendal blocks. On several occasions, premature delivery was performed with no other anesthesia and with no depression of the infant. The blocks were also used in two instances of incompetent internal cervical os where the infants were so immature that there was no hope of viability. One of these patients, in a subsequent pregnancy, had the Shirodkar procedure and was later delivered normally with paracervical and pudendal blocks as her only anesthetics.

Five sets of twins were delivered during this time. All of these patients were given paracervical blocks. The results were rated good in four and fair in one. No special difficulties were encountered. The cooperation of the patient was a decided asset. No resistance in the form of increased uterine tone, such as one occasionally finds in caudal and saddle blocks, was encountered even in instances where considerable intrauterine manipulation was necessary. An instance of this was a delivery where the first infant was a breech with a prolapsed cord, and the second a vertex with prolapsed cord. The first was delivered rapidly by breech extraction. The second cord was reduced by pushing it up past the head. The head was then rotated with Barton forceps and delivered promptly. Both infants did well. The mother was given a few whiffs of nitrous oxide during the extractions, but was awake to see the babies before their cords were divided.

Included in this series is one patient who had a uterus didelphys (Jarcho, J.).[10] The paracervical block, as one might expect, was rated only "fair." However, I have since delivered an infant for another patient with uterus didelphys, the block being excellent. Using the principle of inserting the needle in the fornix as closely as possible to the cervix and shallow enough to feel the bleb as the agent is injected and following this with a transvaginal pudendal block resulted in anesthesia identical to that attained in those with normal uteri.

Other procedures, such as forceps rotation of persistent occiput posteriors, either by Scanzoni maneuver or the single application of Kielland forceps, have been accomplished readily under paracervical and pudendal block. Deep transverse arrest has been handled with more difficulty, either by the use of Kielland or Barton forceps, the latter being used as a last resort when the Kiellands were not applicable because of their straight shanks. Of eight transverse arrests (1.6%), the results showed two excellent, five good and one fair block. Of the 23 occiput posteriors (4.6%) which were rotated by forceps, there were eight excellent results, 13 good results, one fair result.*

Summary

Paracervical block is described as a technique. A group of 500 cases is evaluated in detail and reference is made to several other series, as well as to at least 500 more cases since performed by the author. The few and minor complications are discussed, and emphasis is placed on the usefulness of the technique in the management of special problems.

Paracervical block can be recommended highly, especially in conjunction with pudendal blocks, as a safe method of attaining pain relief in the last hours of labor and delivery. It is especially advantageous in the practice of those who are not blessed with the services of a house staff and who must, therefore, be responsible personally for attaining a comfortable delivery. It is admirably suited to the special problems which commonly arise in the obstetric practice of rural physicians.

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* There was also one complete failure which was done actually in December 1961, the first paracervical block which I attempted, and neither an apology nor an explanation seems appropriate at this point. A subsequent block in the same patient in another pregnancy was scored as "excellent."

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St. Louis Medical Society—third Tuesday of each month, October through May.
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South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglass-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

As you might assume without any personal experience, a confrontation with the Internal Revenue Service is not something to be looked forward to with any degree of glee! Mr. John Noble, legal counsel for MSMA, and I spent two days in Washington, D. C., recently bearding the IRS lion in his den. We found the experience both frustrating and edifying.

We journeyed to Washington to oppose proposed changes in IRS regulations. Under the proposals, advertising revenue (which helps support publication of Missouri Medicine) and income from Annual Session exhibit space (which helps finance the Session's scientific program) would have been declared taxable income.

I was appalled to find that the hearing was more of an inquisition for those who had the temerity to stand and express opposition to the IRS proposals. In the course of nearly two full days, we heard not a single question posed to those witnesses who supported the IRS position. On the other hand, virtually every witness who testified against the proposed regulations was interrogated in a very pointed and biased manner. Fortunately, I was one of the few persons to escape extensive cross-examination following my basic presentation. It was a remarkable and frightening experience to see a huge government bureaucracy at work.

I came away from the hearing with some very definite impressions. As already indicated, I felt a sense of distress and apprehension at the attitude of the IRS representatives who conducted proceedings. Also, I was amazed to find that your State Medical Association was the only state association appearing in opposition to the proposed changes. The American Medical Association was represented, but its presentation was not too impressive.

Hector W. Benoit, Jr., M.D.

One of my more favorable impressions came from members of the Missouri Congressional delegation who indicated that they are aware of and definitely opposed to the type of high-handed tactics which we saw at the hearing. They also indicated that Congress will not permit IRS to implement its proposed changes. This was a welcome piece of information because Mr. Noble and I both felt that the hearing had done nothing to change the preconceived ideas of the IRS people. They were merely going through the motions of a public hearing because they are required to do so by law.

I urge each of you to contact your own Congressman and Senators on this issue. Make it abundantly clear to them that a tax on the advertising and exhibit revenues of non-profit organizations (and there are hundreds of them in the country) will seriously handicap or totally destroy such organizations. Representatives of the Boy Scouts of America and the Girl Scouts of America brought that same message to the IRS hearing. It was a distinct pleasure to find ourselves aligned with such groups.

In retrospect, I now understand former President Harry S Truman's comment relating to "the heat in the kitchen." If the IRS hearing was any indication, the heat in Washington can, indeed, be very oppressive. It is not hard for me to understand why many good people have selected the cool comfort of home!

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turbances may be noted; rarely gastrointestinal bleeding
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edema or anaphylactic reactions may have been drug associ
ated. While *Paraflex* (chlorzoxazone) has been suspected a
being the cause of hepatic toxicity in approximately eightee
patients, it was not possible to state that the dysfunction wa
or was not drug induced. ***Dosage:*** Two tablets q.i.d. ***Supplie***
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References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:31
1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis o
Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Rot
J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burn
J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:137
1959. 6. Berman, H. H., *et al.*: Dis. Ner
Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid
27:189, 1966.

*U. S. PATENT NO. 2,895,8

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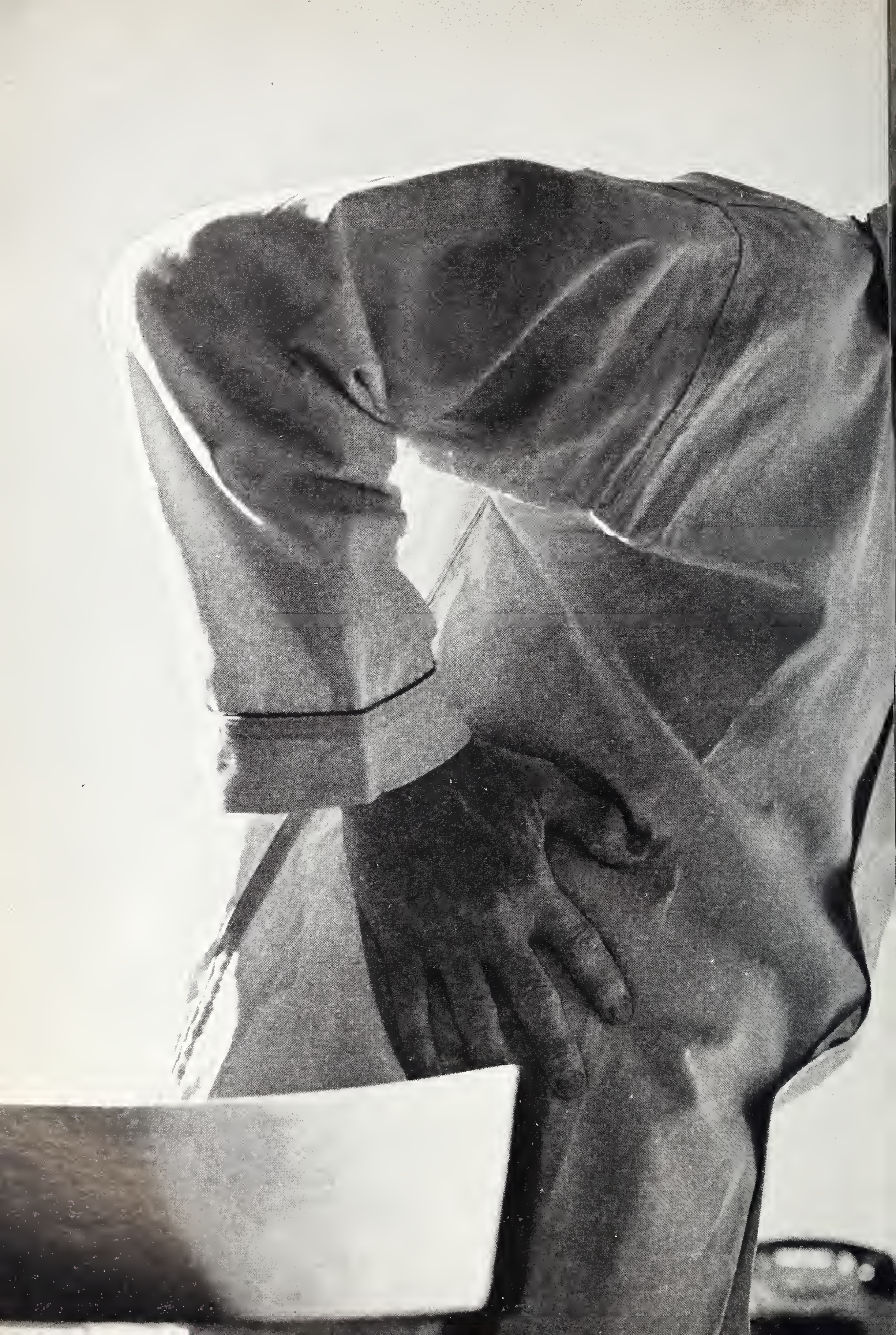
Woman's Auxiliary

Mrs. John M. Williams

As the long, hot days and relaxed schedules of summer come to a close and we look forward to the lovely, Indian summertime of the new school year and a more orderly routine of living and doing, there is renewed vigor for the busy months ahead. As medical societies and their auxiliaries start their fall meetings, an opportune time presents itself for communication, coordination, cooperation and planning between the doctors and their wives. It is a good time to evaluate the community's health needs and education. If the medical society has a priority problem or project at hand, would it not be possible to enlist the good services and willing hands of its auxiliary? Or, if the auxiliary is keenly aware of a community service need, the interest and support of the medical society could well launch a successful effort.

Consider seriously the opportunity created by Community Health Week, an established AMA-sponsored program planned and carried out by individual medical societies, often with the help of their auxiliaries, to inform the community of the strides being made to improve community health and overcome specific problems. The fifth annual national observance will be Oct. 15 to 21. As in 1966, national planning will be concentrated on two principal themes, immunization and health careers opportunities, since response to a recent questionnaire indicated that medical society execuitves and public relations chairmen overwhelmingly were in favor of following up on these two themes in 1967. Those medical societies which plan to conduct community-wide programs on immunization especially will be interested in a comprehensive, new immunization program now available from the AMA Health Education Department. No matter what theme and goals are selected, now is the time to enlist the aid of those members of the community health team who should join in the Community Health Week program that could have far-reaching educational benefits, as well as promote a better understanding of medicine's goals and the doctor's interest in the community.

Your Woman's Auxiliary to the Missouri State Medical Association is made up of its constituents, the county auxiliaries, and has a structure of the usual officers. There is a director for each of the ten districts and chairmen of standing committees, all of which are basically for community service. These committees are classified as Community Service, Health Careers, International Health, Legislation, Mental Health, Rural Health and Safety-Disaster Preparedness. The women who head and serve on these committees are knowledgeable and experienced in their fields. They always are looking for the opportunity to initiate one of their programs and help in its development. Do not overlook any part of the Auxiliary team when service manpower is needed.



Tissue's healing nicely. Yet anxiety slows his steps toward recovery.

By helping overcome anxiety and tension which can thwart the convalescent's progress, EQUANIL (meprobamate) often may play an important role in medical and surgical aftercare.

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EDITORIALS

PLANNERS CHART MASSIVE EXPANSION OF HEALTH SERVICES

In cooperation with the federal government, state agencies are beginning a massive planning program to determine where Missouri needs to increase its public health services.

The programs are based upon an anticipated greater federal role in the financing of greatly increased health programs.

Planning money, involving hundreds of thousands of dollars, has been allocated to three state agencies from three different federal programs. An alert state government instituted cooperation on the local level to halt duplication.

This recent action comes as Missouri, in the last four years, has almost doubled the cost of its health services with much of the money coming from federal sources. But the increase is nothing compared to what is anticipated in the future.

Agencies taking part in the planning are the Office of State and Regional Planning, the Division of Health, the Vocational Rehabilitation Section of Education and the University of Missouri.

Playing a central role will be Gordon Weiss, former executive director of the Missouri Association for Mental Health, who now heads the new *Comprehensive Health Planning Section* in the relatively new Office of State and Regional Planning which on October 13 will become the new Department of Community Affairs.

The studies indicate the growing emphasis on planning, collecting of statistical data, and mark the advent of economists and planners as an integral part of government.

Impetus for the change in this field, like many other fields, came from the federal government.

In the vocabulary of the planners, the new approach is called the Planning-Programming-Budgeting System or PPBS for short.

Now to get federal money you have to have a "comprehensive" plan which covers a specified period of time, usually five or ten years. The plan, which incidentally is compiled by "planners" who demand and get high salaries, sets up desired programs and determines which programs will get first priority.

For example, the planners may set up a program for establishment of regional health clinics supported by state funds and regional mental health clinics, also supported by state funds.

The planners will decide not only which of the two is more important but also where to locate subsidiary units on a priority basis.

Joplin may need, in the opinion of the planners, a clinic more than Jefferson City, but Jefferson City may need more than Camdenton. Thus priority one, two, three. And thus, also an alternative program (the mental health clinics) with the same subsidiary priorities, just in case Uncle Sam has got a lot of money.

Under PPBS, planners also set up a schedule of when units or services in the plan will go into effect. That's programming. Then comes the crucial point. Budgeting.

Priorities are established and as the money becomes available, the plan is put into effect.

However, President Johnson further complicated PPBS with a directive to the Bureau of the Budget. The benefits received from any welfare service must exceed the cost of the program.

So you get the economists, who must now decide the dollar value of giving a free shot of penicillin or the value of a psychological guidance session with a troubled juvenile.

Just how do you put dollar value on that sort of thing? Joseph Reichart, an official with the Division of Health, says that's one of the big problems these days. "No one has really come up with the answer," he reports.

Reichart said the particular federal program under which the study programs are financed is currently being allotted $60.5 million and an amendment is before Congress to increase that to $275 million.

Where will it go from there?

Reichart is not sure. For that matter, neither is anyone else. However, Reichart reports the primary goal of the planning programs is to determine where and what the needs are.

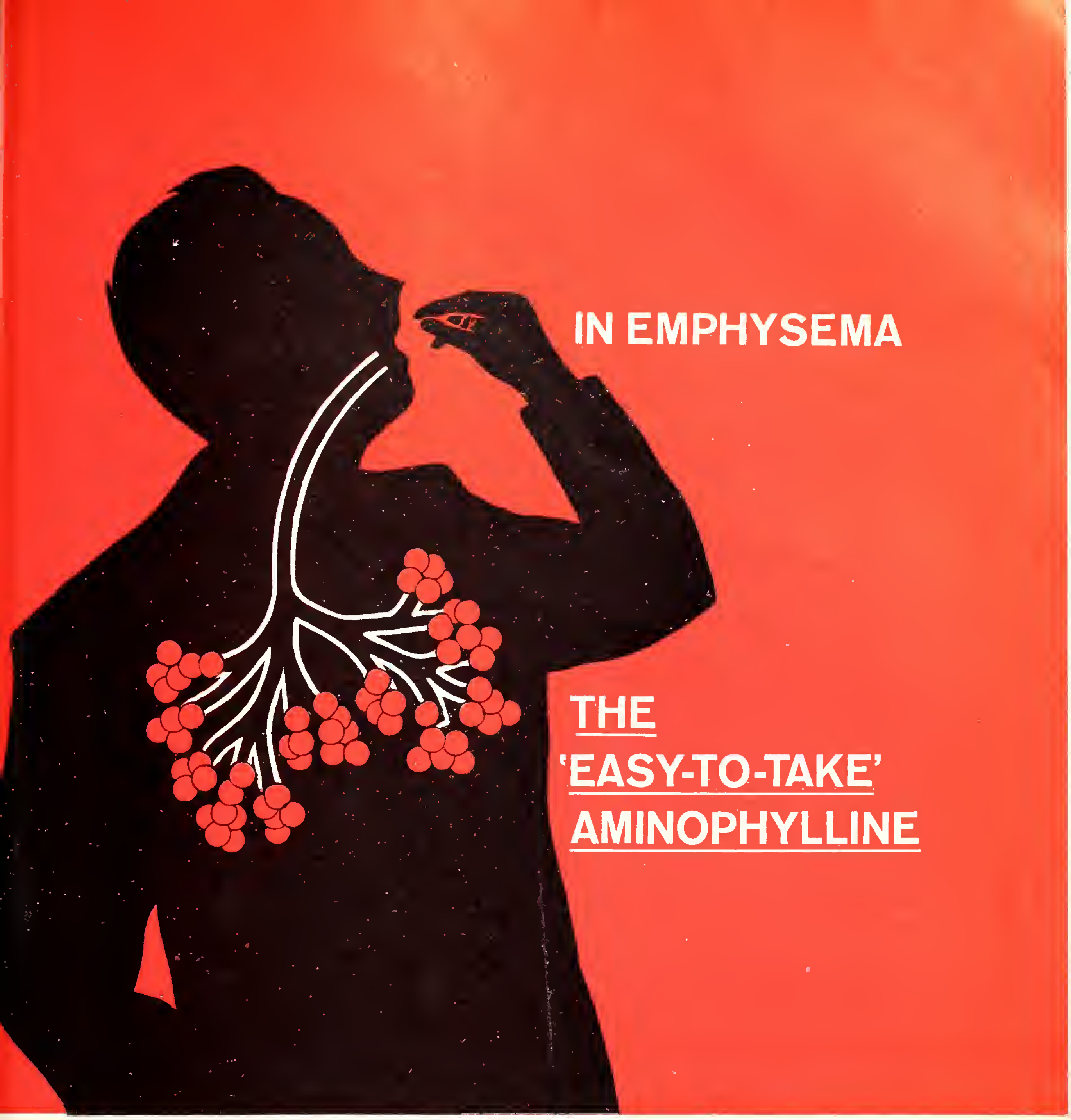
"It's a massive program," he said. "We don't, however, anticipate full implementation for a number of years."

Weiss is working this year with a $142,000 grant. Significant sums of that amount are going just to teach state and local officials about PPBS. That includes a $15,000 application to develop a PPBS teaching device and another $15,000 for PPBS seminars.

Over in the Vocational Rehabilitation Section, Herbert T. Gragert is project director for the Comprehensive Vocational Rehabilitation Survey and Planning Project. He has $100,000 for his first year and plans eventually to spend a total of perhaps $250,000.

Gragert is going to conduct a census of the handicapped in Missouri. He is to determine how many are now getting state and federal aid and how many others need it. It's not now a question of people seeking help from their government. Their government is going to find them.

Gragert reports the situation is further compli-



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cated by the federal government's liberalizing the definition of handicapped. This happened last year.

Handicaps, Gragert says, are now not only physical but can be social or cultural. He says if a person suffers from a social or cultural handicap which prevents him from obtaining employment, then he would be available for government aid.

For example, Gragert says, take the Cuban refugee who went to Iowa but could not speak English. Because of his cultural handicap, he had to work as a janitor in a supermarket even though he was among the professional class in Cuba.

His handicap prevents him from obtaining the level of employment to which he is capable. Under the new federal definition, the Cuban gentleman would be eligible for aid to learn English and obtain a professional skill of which he was capable.

But, Gragert cautions, the same would not hold true for a person raised in a culturally deprived environment where he did not learn to appreciate Bach or Beethoven. That lack of appreciation does not necessarily keep him from employment. He could not get government aid to buy a stereo and some Bach records. At least, under this program.

Gragert said the Vocational Rehabilitation Study would plan a program for "orderly expansion of present programs and a plan for new programs, if needed."

By 1975, he said, the section hopes to take all who are handicapped and need help under the plan.

Gragert pointed out that Weiss is chairman of the study's advisory committee and is ultimately responsible to see that there is no duplication between the vocational rehabilitation study and others being conducted.

Much the same type of program is being instituted by the University of Missouri. There the emphasis is establishment of regional cancer, heart and stroke programs. The three diseases are the nation's top killers.

Again, Weiss is responsible for meshing the University's program into the total picture.

So for the next two years, a great deal of planning, computing, counting of heads and limbs is going to be going on. However, essentially it means one thing. The increase of state and federal expenditures in the public and mental health service areas is going to continue. But at an accelerated rate.

The desired goal of it all, planners tell us, is to get more of the money down to the people health and welfare programs are supposed to benefit.

Reprinted From the
Jefferson City News-Tribune
July 30, 1967

"YOGURT," SUPERMEN AND SOCIAL SCIENCE!

I read in the morning newspaper that the Head of the Salk Institute predicts unlimited longevity by 1980. Not only will we be living on indefinitely, but the years 65 to 75 will be productive ones even as the years 45 to 55 are now considered prime. Man to man strife will be eliminated, leaving only man to woman problems to be coped with. Sex of the children will be controlled by the parents, with everybody wanting a boy first then a girl; so that we have twice as many men as women. Isn't that a fine kettle of fish?

Arthritis, cancer and degenerative vascular disease will be controlled and we will realize Hitler's dream of a race of supermen. All this and more by manipulating the DNA molecule. It seems to me a man named Metchnikoff had about the same ideas around the turn of the century; his theory was that Bulgarian buttermilk was the answer. Not a few health faddists still attribute marvelous properties to his "Yogurt." The above notwithstanding, the Good Dr. Metchnikoff died at the biblical 3 score and ten. Of the two proposals, I think maybe I like Dr. Metchnikoff's better, certainly it is less frightening.

That an explosion of knowlege in Biological Science and Biophysics is taking place, no one can deny. However, it really makes little difference how long we live and how healthy if we can't make a little progress in the social sciences. Exactly how manipulation of DNA will eliminate wars and pestilence is difficult to envision.

What difference does it make if we control our own destiny to this degree if we still can't get along any better? Will the Jews then love the Arabs? Will the White and Negro in this country learn to live in harmony, each man judging the other on his individual merit? I hope so, but I doubt it. The progress in the technological sciences and now in the Biological Sciences is hollow unless accompanied by some progress in the social sciences as well.

WILLIAM R. BROWN, President
Johnson County (Kans.) Medical Society
Greater Kansas City Medical Bulletin

In Memoriam

Hunt, William J., M.D., St. Joseph, a graduate of Ensworth Medical College, 1912; member of Buchanan County Medical Society; aged 76; died June 9, 1967.

Klym, Nicholas, M.D., St. Louis, a graduate of St. Louis College of Physicians and Surgeons, 1921; member of St. Louis Medical Society; aged 71; died June 15, 1967.

Yates, J. Lewis, M.D., Mount Vernon, a graduate of the University of Pennsylvania, 1947; member of Ozarks Medical Society; aged 46; died June 16, 1967.

Morrison, George B., M.D., Nevada, a graduate of Jefferson Medical College, 1921; member of West Central Missouri Medical Society; aged 70; died June 22, 1967.

Swafford, Owen J., M.D., Senath, a graduate of the University of Tennessee, 1957; member of Dunklin County Medical Society; aged 40; died June 25, 1967.

Eskeles, Irwin H., M.D., Florissant, a graduate of Washington University, 1922; member of St. Louis Medical Society; aged 69; died July 5, 1967.

Aull, John, M.D., Kansas City, a graduate of Johns Hopkins Medical School, 1915; member of Jackson County Medical Society; aged 78; died July 7, 1967.

Stephens, Louis F., M.D., St. Louis, a graduate of St. Louis University, 1943; member of St. Louis Medical Society; aged 50; died July 10, 1967.

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Neill, A. J.: Clin. Med. *8*:518 (Mar.) 1961.

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Thiamine mononitrate	10.0 mg.	–
Riboflavin	5.0 mg.	–
Niacinamide	50.0 mg.	–
Pyridoxine HCl	3.0 mg.	–
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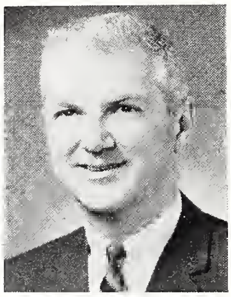
Don Brummall to Succeed Allen Smith at MSMA

A veteran of eight years in Blue Cross-Blue Shield saleswork has been named to the executive office staff of the Missouri State Medical Association. He is Don Brummall of Jefferson City who has served as District Manager of Blue Cross-Blue Shield (St. Louis) since 1959. He assumes his new duties with the Medical Association on September 1.


Don Brummall

MSMA Executive Secretary Raymond McIntyre said that Brummall will succeed Allen D. Smith who has resigned to become Executive Secretary of the Jackson County Medical Society in Kansas City. Smith has been with the State Medical Association for three years, serving as Managing Editor of Missouri Medicine, Exhibit Manager for the Annual Session and registered lobbyist for the Association.

Brummall is a native of Salisbury, Missouri, and a graduate of Northeast Missouri State College. He received his B.S. Degree in business in 1950. He joined Blue Cross-Blue Shield in 1959 with a background of business and general sales experience. With MSMA, Brummall will assist in the lobbying and legislative contact work, handle arrangements for exhibits at the Annual Session and help in maintaining liaison between the State Association and local component medical societies.

Brummall is married and the father of two children. He is a member of the Jefferson City Chamber of Commerce, the Methodist Church and the Jefferson City Country Club. In his spare time, he enjoys hunting, fishing and playing golf.

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Medical Society Officers' Conference Set for Nov. 4-5

The Missouri State Medical Association will sponsor a Medical Society Officers' Conference this fall. Presidents, Presidents-Elect, Secretaries and Executive Secretaries of component societies are being urged to set aside the dates immediately and to make plans to attend the event.

Joseph L. Fisher, M.D., Chairman of the MSMA Public Service Committee, announced that the Conference will be held at the Downtowner Motor Inn in Columbia on November 4 and 5. He said that the Public Service Committee is hopeful that the Conference will become an annual affair in order to improve relationships between the State Association and its local Societies and to expose local society leaders to the broad programs and policies of organized medicine.

The Conference is scheduled to begin early Saturday afternoon and conclude after the Sunday luncheon session. The program has been designed to both inform and inspire. Representatives of the Missouri Division of Welfare have been invited to outline the latest information relative to implementation of Title XIX (medicaid) in Missouri. There will be discussions on various other aspects of medical economics and legislation. Two state legislators, leaders in their respective parties, will present their thoughts on the role of the medical profession in shaping health care legislation. There will be workshops on the "nuts and bolts" of medical organization. Time has been set aside for "brain storming" sessions in which participants will be invited to air criticisms and explore new approaches to medical organization problems.

Doctor Fisher also reported that Milford O. Rouse, M.D., President of the American Medical Association, has been invited to attend the meeting and to appear as the final speaker at the Sunday luncheon session. There was no indication at publication time of whether Doctor Rouse would be able to accept the invitation.

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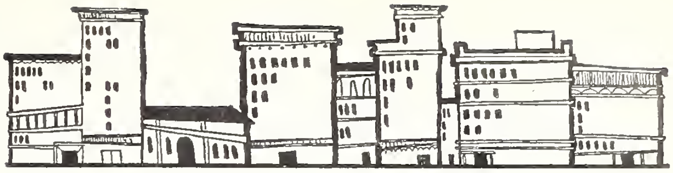

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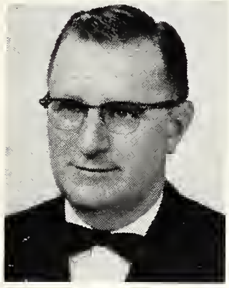


Dr. Edward T. Auer

Dr. Edward T. Auer, Professor and Chairman of the Department of Neurology and Psychiatry at the St. Louis University School of Medicine, has been named the first appointee in the establishment of the Samuel W. Fordyce Chair of Psychiatry.

The $500,000 chair is to be named as a memorial to the late Samuel W. Fordyce, a noted attorney and community leader until his death in August, 1949. It was given by the late Mrs. Harriet Frost Fordyce, a long-time benefactor of the University who died in 1960.

Dr. Auer was appointed professor and Chairman of the Department of Neurology and Psychiatry at the School of Medicine in 1962. Under his leadership, the staff, teaching and research activities were developed at the David P. Wohl Memorial Mental Health Institute, a 60 bed open psychiatric hospital with outpatient and research facilities.

WASHINGTON UNIVERSITY

Dr. Warren G. Stamp, Associate Professor of Orthopaedic Surgery, Washington University School of Medicine, has been elected to an elite group in his specialty. He is among the only 11 new American Orthopaedic Association members. Each is recognized for continuing achievements in treatment, education and research in this branch of surgery dealing with the chronic diseases of the joints and spine. The AOA has a limited active membership of only 180.

Of the four active AOA members in Missouri, three are on the staff of the School of Medicine: Dr. Fred C. Reynolds, Professor of Orthopaedic Surgery; Dr. H. Relton McCarroll, Clinical Professor; and Dr. Lee T. Ford, Jr., Clinical Instructor. The fourth Missouri member is Dr. Richard H. Kiene, Kansas City.

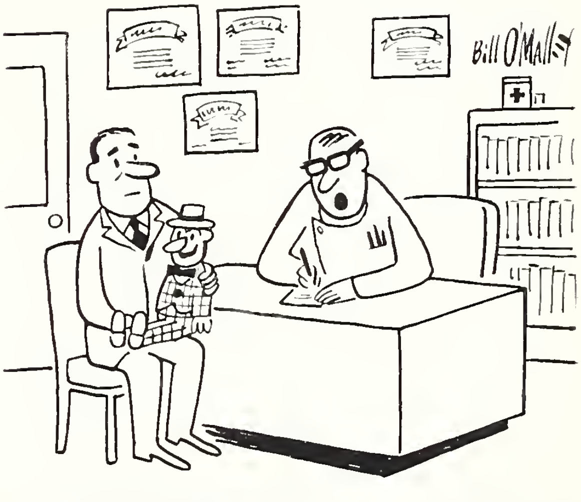
Washington University has been named to receive one of five Health Sciences Advancement Awards which provide a total of $3,158,000 in Federal Support to graduate institutions. The Health Sciences Advancement Award program, initiated in 1966 by the Division of Research Facilities and Resources, National Institutes of Health, is designed to upgrade biomedical research and research training programs in graduate educational institutions, including schools of the health professions. Award criteria call for a clearly defined institutional plan to allow the grantee to move toward the forefront of those engaged in biomedical research.

The $592,000 will support studies in the areas of molecular biology and bioultrastructure and the application of biomathematics and bioengineering to these areas. The program will involve the preclinical departments of the School of Medicine and the Graduate School of Arts and Sciences.

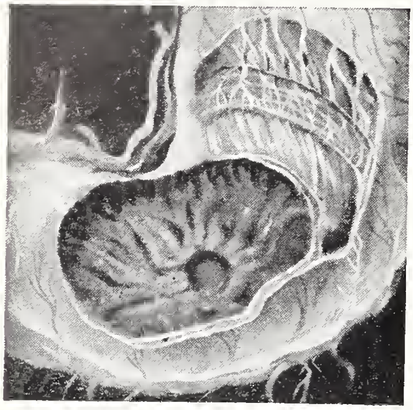
UNIVERSITY OF MISSOURI

Dr. C. Thorpe Ray, Professor and Chairman of the Department of Medicine at the University

(Continued on page 800)



"Take three of these pills a day . . . give the other dummy one each day."



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Composition: Each Mylanta chewable tablet or teaspoonful (5 ml.) of liquid contains: magnesium hydroxide, 200 mg.; aluminum hydroxide, dried gel, 200 mg.; simethicone, 20 mg. **Dosage:** one or two tablets, well chewed or allowed to dissolve in the mouth, or one or two teaspoonfuls of liquid to be taken between meals and at bedtime.

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A large group of interested persons stand by as Governor Warren E. Hearnes signs the bills which will initiate a Title XIX (medicaid) program in Missouri. At the Governor's immediate right is Senator William J. Cason of Clinton who handled the bills in the General Assembly. On Senator Cason's left and over the Governor's right shoulder is John I. Matthews, M.D., MSMA Secretary and Chairman of the Committee on Legislative Matters. At the far right is Proctor Carter, Director of the State Division of Welfare, whose Division is charged with administering the Title XIX program.

A State Board of Health is officially authorized as Governor Warren E. Hearnes signs Senate Bill No. 74 into law. Watching the action are (l to r): Paul D. Adams, Executive Secretary of the Missouri Association of Osteopathic Physicians and Surgeons; James I. Green, Executive Secretary of the Missouri Association of Licensed Nursing Homes; State Senator William J. Cason of Clinton, chief sponsor of the bill; Governor Hearnes; Vernon E. Wilson, M.D., Executive Director of Health Affairs, University of Missouri; Ted O. Lloyd, Executive Secretary of the Missouri Hospital Association; and John I. Matthews, M.D., MSMA Secretary and Chairman of the Committee on Legislative Matters.

Continuing Education Coming Events

Sept. 7-9	**Postgraduate Medical Study—Neuromuscular Facilitation Technics** University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kansas
Sept. 19-23	**"Comprehensive Care in the Arthropathies"** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Sept. 24	**Symposium—Respiratory Disease** St. Louis Academy of General Practice; Tuberculosis and Health Society of St. Louis Colony Motor Inn, Clayton (acceptable 4 hours, AAGP credit)
Sept. 25-27	**American College of Physicians Regional Conference** General Hospital, Kansas City
Oct. 4-5	**Annual Midwest Interprofessional Seminar on Diseases Common to Animals and Man** University of Missouri, Columbia
Oct. 17-20	**"A Comprehensive View of Gastrointestinal Diseases"** (4-day course) Menorah Medical Center, Kansas City (acceptable for AG AAGP credit)
Oct. 20-22	**19th Annual Scientific Assembly** Missouri Academy of General Practice Tan-Tar-A Resort, Osage Beach
Oct. 27-28	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center Auditorium, Columbia (acceptable 6½ hours AAGP credit)

Sustained circulatory, respirat
and cerebral stimulation for t

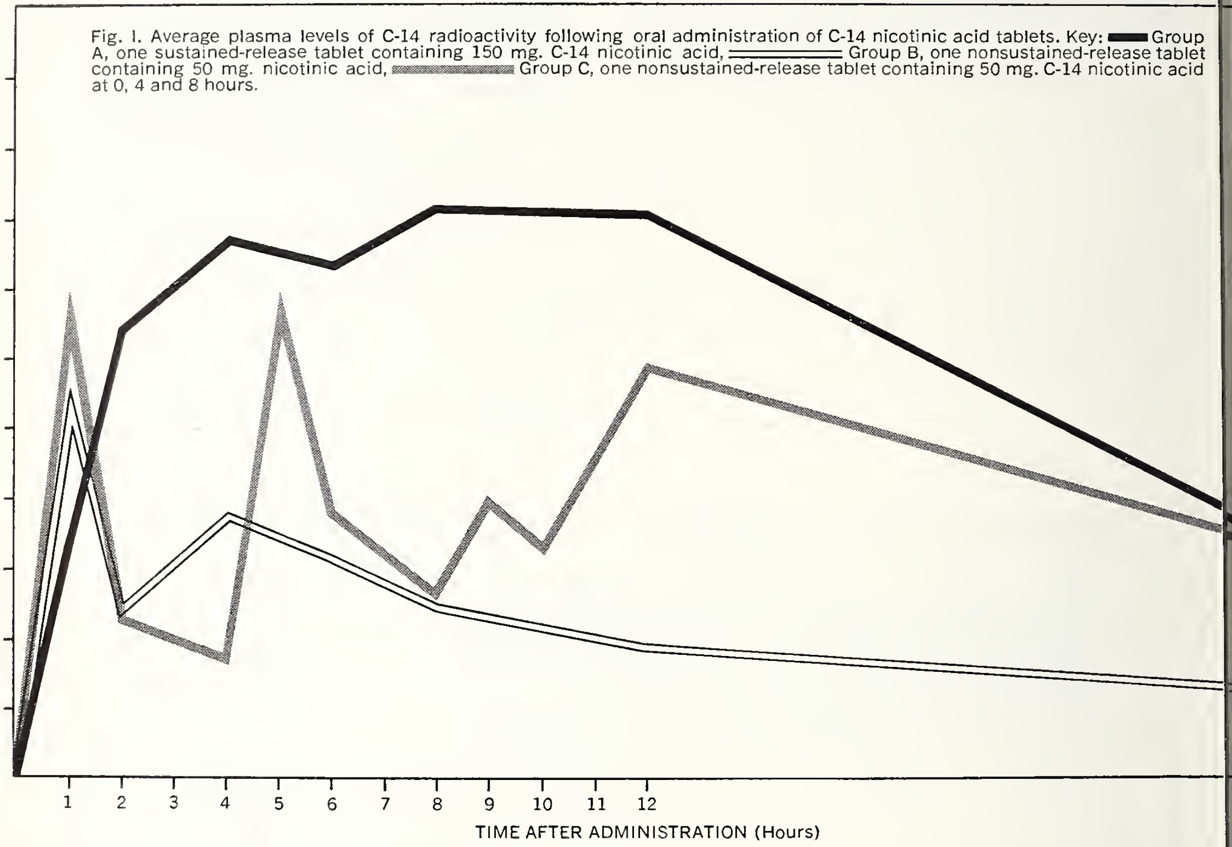


Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

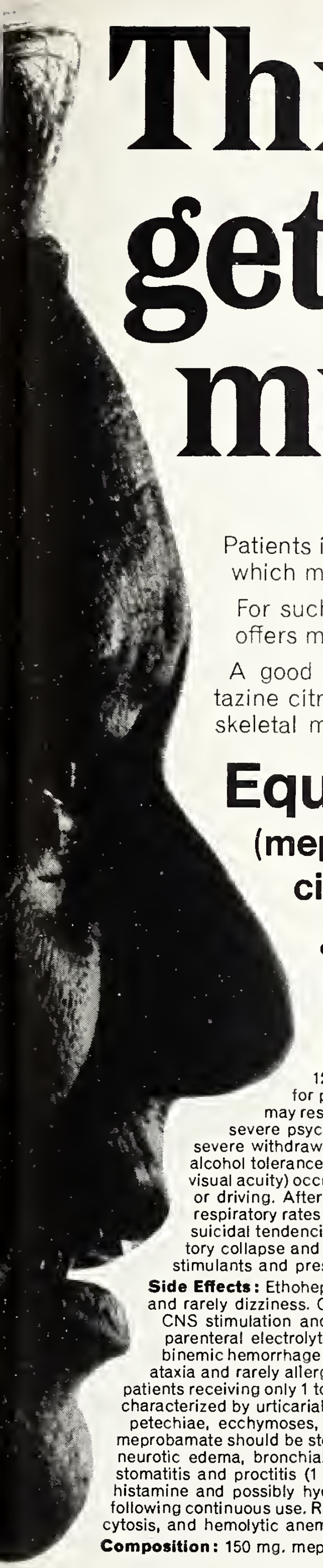
(fewer absent doses by absent-minded patients

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absentmindedness or senile confusion. Therapy *can* be
tinuous on a daily dose of only one Geroniazol TT
let every 12 hours.

The gradual release of nicotinic acid in Geron
TT will provide the well-known peripheral vasodi
tion needed in patients with deficient circulatior
with a minimum amount (if any) of "flushing."
cerebrovascular circulation is complemented by
tylenetetrazol, long-established as a cerebral and
piratory stimulant.

Geroniazol TT improves the typical, unfortu
signs of senile confusion. Patients become more



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Contraindications: History of sensitivity or severe intolerance to aspirin or meprobamate.

Warnings: USE IN PREGNANCY: Safety for use during pregnancy or lactation has not been established; therefore it should be used in pregnant patients or women of child-bearing age only when the physician judges its use essential to the patient's welfare.

Precautions: Keep out of reach of children. Not recommended for patients 12 years old or less. Carefully supervise dose and amounts prescribed, especially for patients prone to overdose themselves. Excessive prolonged use of meprobamate may result in dependence or habituation in susceptible persons—as alcoholics, ex-addicts, severe psychoneurotics. Withdraw gradually after prolonged high dosage to avoid possibly severe withdrawal reactions including epileptiform seizures. Warn patients of possible reduced alcohol tolerance. If drowsiness, ataxia or visual disturbances (impairment of accommodation and visual acuity) occur, reduce dose. If symptoms persist, caution patients against operating machinery or driving. After meprobamate overdose, prompt sleep, reduction of blood pressure, pulse and respiratory rates to basal levels, and hyperventilation are reported. Give cautiously to patients with suicidal tendencies. Treat attempted suicide (has resulted in coma, shock, vasomotor and respiratory collapse and anuria) with immediate gastric lavage and appropriate supportive therapy (CNS stimulants and pressor amines as indicated).

Side Effects: Ethoheptazine and aspirin may occasionally cause nausea, vomiting, epigastric distress, and rarely dizziness. Overdosage may result in CNS depression (drowsiness and lightheadedness) or CNS stimulation and salicylate intoxication (requires induced vomiting or gastric lavage, specific parenteral electrolyte therapy for ketoacidosis and dehydration, and observation for hypoprothrombinemic hemorrhage [usually requires whole blood transfusions]). Meprobamate may cause drowsiness, ataxia and rarely allergic or idiosyncratic reactions. These reactions, sometimes severe, can develop in patients receiving only 1 to 4 doses who have had no previous contact with meprobamate. Mild reactions are characterized by urticarial or erythematous maculopapular rash. Acute nonthrombocytopenic purpura with petechiae, ecchymoses, peripheral edema and fever have been reported. If allergic reaction occurs, meprobamate should be stopped and not reinstituted. Severe reactions, observed very rarely, include angioneurotic edema, bronchial spasms, fever, fainting spells, hypotensive crises (1 fatal case), anaphylaxis, stomatitis and proctitis (1 case) and hyperthermia. Treat symptomatically such as with epinephrine, antihistamine and possibly hydrocortisone. A few cases of leucopenia, usually transient, have been reported following continuous use. Rarely, cases of aplastic anemia (1 fatal case), thrombocytopenic purpura, agranulocytosis, and hemolytic anemia have been reported; almost always, in the presence of known toxic agents.

Composition: 150 mg. meprobamate, 75 mg. ethoheptazine citrate and 250 mg. aspirin per tablet.

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Medical Schools (Cont'd)

of Missouri since 1958, has resigned to accept an appointment as Director of the Division of Graduate and Postgraduate Medical Education at the Alton Ochsner Medical Foundation in New Orleans. He also will serve as Director of the Foundation's Division of Research and will practice clinical cardiology in association with Ochsner Clinic and its cardiology and cardiovascular laboratories. He will participate in the clinical and teaching programs of Tulane University School of Medicine, where he had been on the faculty before coming to Missouri.

Dr. William D. Mayer, Dean of the School of Medicine, said, "Dr. Ray's contributions as a clinician and teacher have had a wide effect on the quality of medicine in this State and his loss will be felt not only by the School of Medicine, but also the University, the community and State at large. Fortunately, we will continue to share in his significant national contributions to medicine and medical education."

The Medical Center is one of 29 teaching hospitals in 21 states and Puerto Rico to share in a new million dollar grant program of the U. S. Public Health Service to upgrade the quality of training in anesthesiology and to attract more physicians to that specialty.

The School of Medicine has been awarded $35,953, according to the National Institutes of Health of the Public Health Service. The program will be directed by Dr. Kenneth K. Keown, Professor and Chairman of the Department of Anesthesiology.

Dr. Frederick L. Stone, Director of the National Institute of General Medical Sciences, said that in one year anesthesia is required in an estimated 25-million surgical procedures and 4½-million obstetrical cases. He stressed the need for more specialists in this field of medicine.

A wide variety of subjects, from automobile injuries in pregnancy to computers in medicine, will be discussed by specialists on the program for the Eighth Annual M.D. Day on the University of Missouri's campus on Oct. 27-28. Guest speakers will include seven members of the faculty of the University of Oklahoma School of Medicine.

In addition to offering a scientific program for practicing physicians in Missouri and neighboring states, M.D. Day is an occasion for reunion of School of Medicine alumni. The medical school class of 1942 will hold its 25-year reunion. The classes of 1957 and 1962 also are planning special events.

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WANTED—Young general practitioner for associate or partner immediately. Need help in very busy practice in Jefferson City, Mo., 30 miles from University of Missouri Medical Center and 40 miles from Lake of the Ozarks. All advantages of a town of 25,000: symphony orchestra, good schools (public and private), parks, four-year University, fishing and hunting nearby. Financial arrangements extremely flexible. Grossing $60,000 plus after one year practice. Am 30 years old, family man, member of AAGP and Alpha Omega Alpha, pilot and avid hunter and fisherman. Contact Box 335, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

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FOR SALE—F.O. Machine, Alpine quartz mercury lamp, heat lamp, Spencer Microscope, projects chart, test lense set and trial frame. D. E. Blacklock, M.D., King City, Mo. 64463.

Plan to attend the 1967 Fall Pow-Wow for local medical society officers. Saturday and Sunday . . . November 4 and 5. See page 787 for details!

Now! 14 x 17 X-ray or Medical Record Cabinets within price range of open shelving with panel back-sliding doors. ADD A FILE—2 compartments, $70.00 F. O. B. factory in Illinois.

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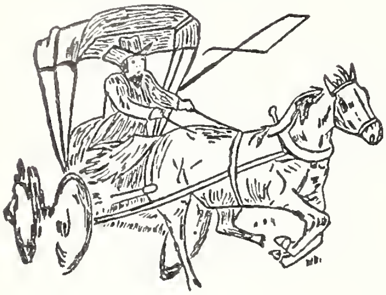
Missouri Medicine in Review



FORTY YEARS AGO

The probationary period of the Kahn test is rapidly being passed and it is now accepted by many workers as the future laboratory diagnostic test for syphilis. Thousands of comparative tests have been made in conjunction with the Wassermann in hundreds of laboratories in this country, as well as in foreign countries. The consensus of opinion is that the Kahn test is more reliable and specific than the cumbersome Wassermann.

With August completion of National Highway No. 40 linking St. Louis and Kansas City with an unbroken concrete slab, Missouri established her first hard road from the eastern to the western boundaries of the state. The ribbon of concrete is a splendid piece of engineering work laid almost in a straight line and with no dangerous curves and almost no grade crossings.

The untimely death of Dr. Thomas W. Salmon, Professor of Psychiatry at Columbia University, brought real sorrow to hundreds of his friends all over the world. Few men of his period have equalled his clear vision of the problems of modern psychiatry.

Fully equipped with every appurtenance modern medicine has developed for the care of the pregnant woman and for research into obstetrical problems, the new building of the St. Louis Maternity Hospital opened its doors for the reception of patients on August 15.

TWENTY-FIVE YEARS AGO

Reports from England indicate that, since the war, the incidence of peptic ulcer has increased appreciably. Stewart and Winser studied the incidence of perforated peptic ulcer from 1937 through 1940 and during September and October of 1940, when bombing air raids on London were at their height. The increase in incidence of perforated peptic ulcer during September was for the entire group. During October, it was considerably more than twice the standard deviation. They called attention to the increase reported by Hamperl in Russia, who found that perforations became ten times more common during a famine period.

A comparison of the crude death rates for 33 specified countries, of which the latest information is for the year 1937, shows that of nations with a dominant white population, Chile has the highest death rate. Yet Chile is the only nation on the western continent that has an extensive system of sickness insurance. The only nations that have a lower death rate than the United States are Denmark, Uruguay, Norway, New Zealand, Australia, Canada, Union of South Africa and the Netherlands.

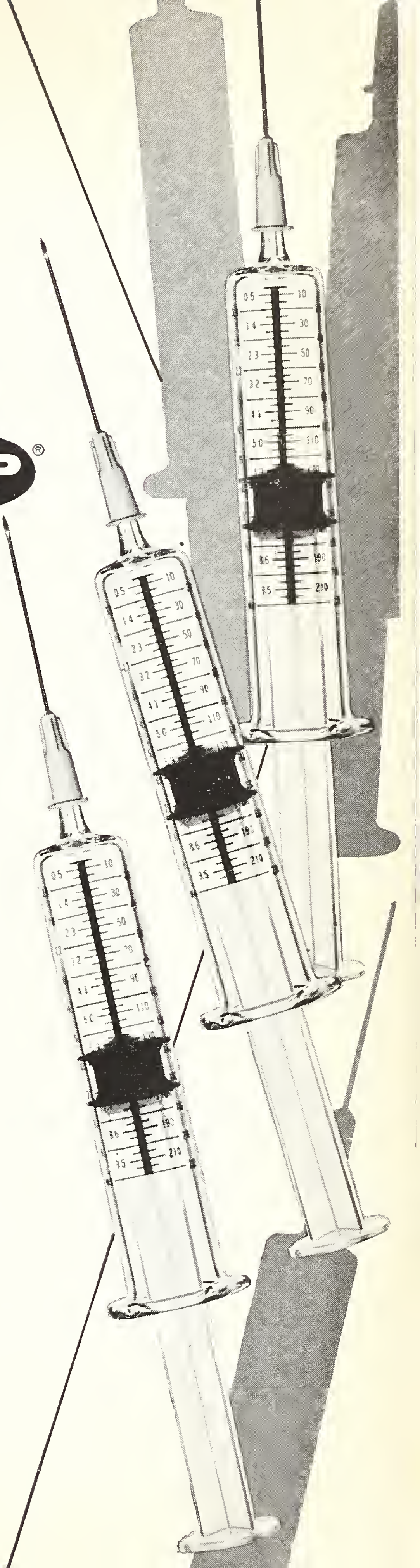
TEN YEARS AGO

Dr. Martin D. Kamen, Associate Professor of Radiochemistry at Washington University School of Medicine, has resigned to become Professor of Biochemistry at Brandeis University in Waltham, Massachusetts. Dr. Kamen, who joined the faculty here in 1945, is internationally known for his work in helping to isolate Carbon 14.

The School of Medicine at the University of Missouri has been fully accredited by the Council on Medical Education of the American Medical Association as a complete four-year school and was voted full membership in the Association of American Medical Colleges.

Doctors of Medicine would be covered by Social Security under a bill (H.R. 8883) introduced by Rep. Robert W. Kean of New Jersey, a member of the House Ways and Means Committee. However, the MSMA and the AMA are on record as being opposed to such compulsory coverage.

The Board of Education of the Salem School District recently elected B. J. Bass, M.D., to fill a vacancy on the Board.



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Missouri Medicine

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Illustrations should be glossy prints or drawings in India ink on white paper. They should not be mounted and name of author and figure number should be penciled lightly on the backs. Legends should appear on a separate sheet. Colored illustrations will be used when suitable if author assumes the actual cost.

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Reprint order blanks will accompany proof, which will be sent to authors prior to publication.

All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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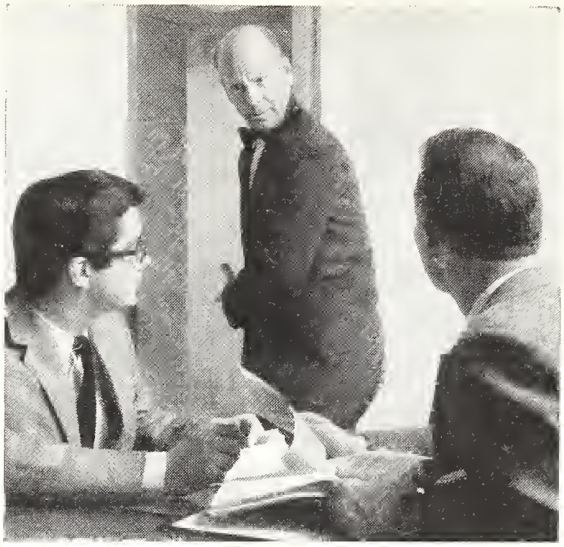

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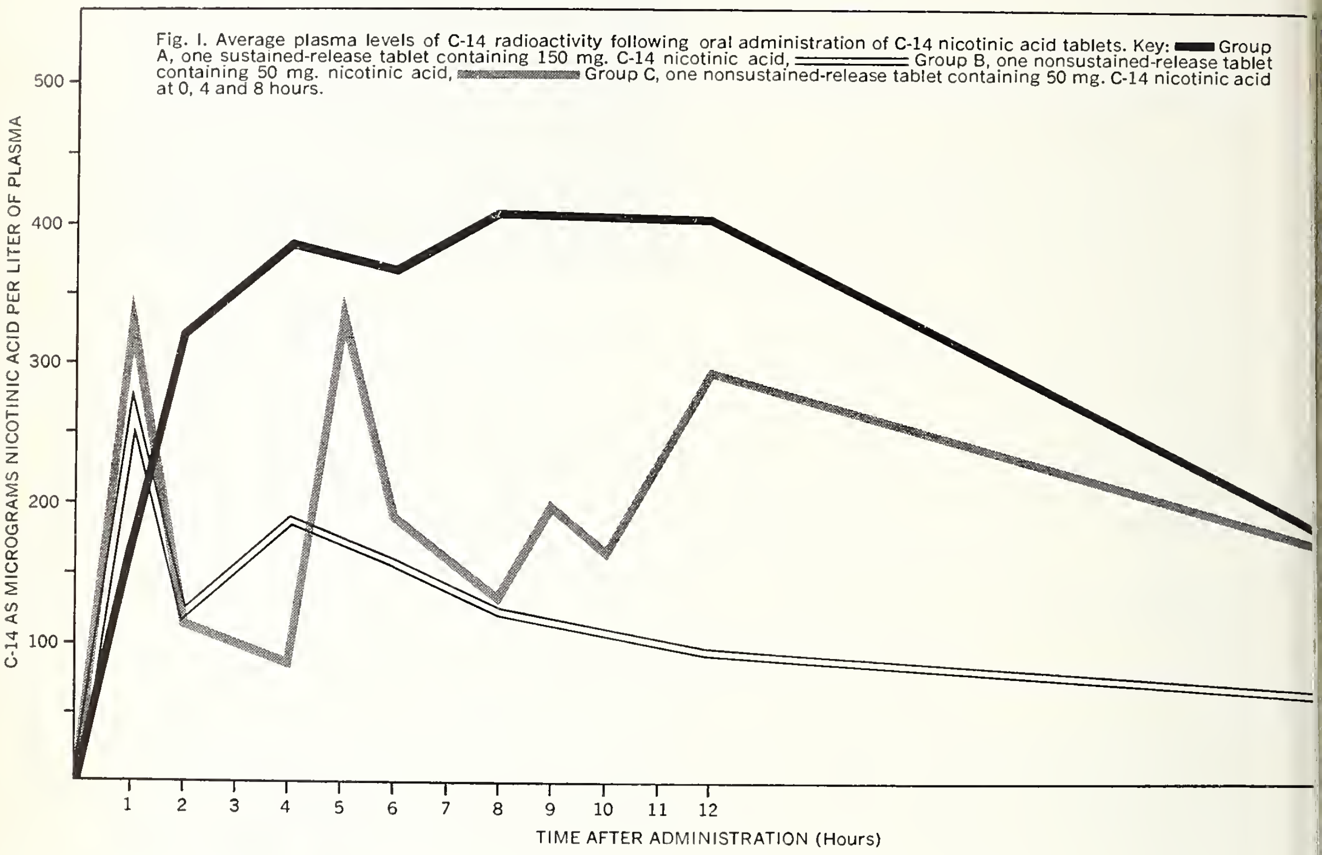

Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ■ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

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Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absent-mindedness or senile confusion. Therapy *can* be co tinuous on a daily dose of only one Geroniazol TT ta let every 12 hours.

The gradual release of nicotinic acid in Geroniaz TT will provide the well-known peripheral vasodilat tion needed in patients with deficient circulation a with a minimum amount (if any) of "flushing." Als cerebrovascular circulation is complemented by pe tylenetetrazol, long-established as a cerebral and re piratory stimulant.

Geroniazol TT improves the typical, unfortunat signs of senile confusion. Patients become more ale

ed and debilitated

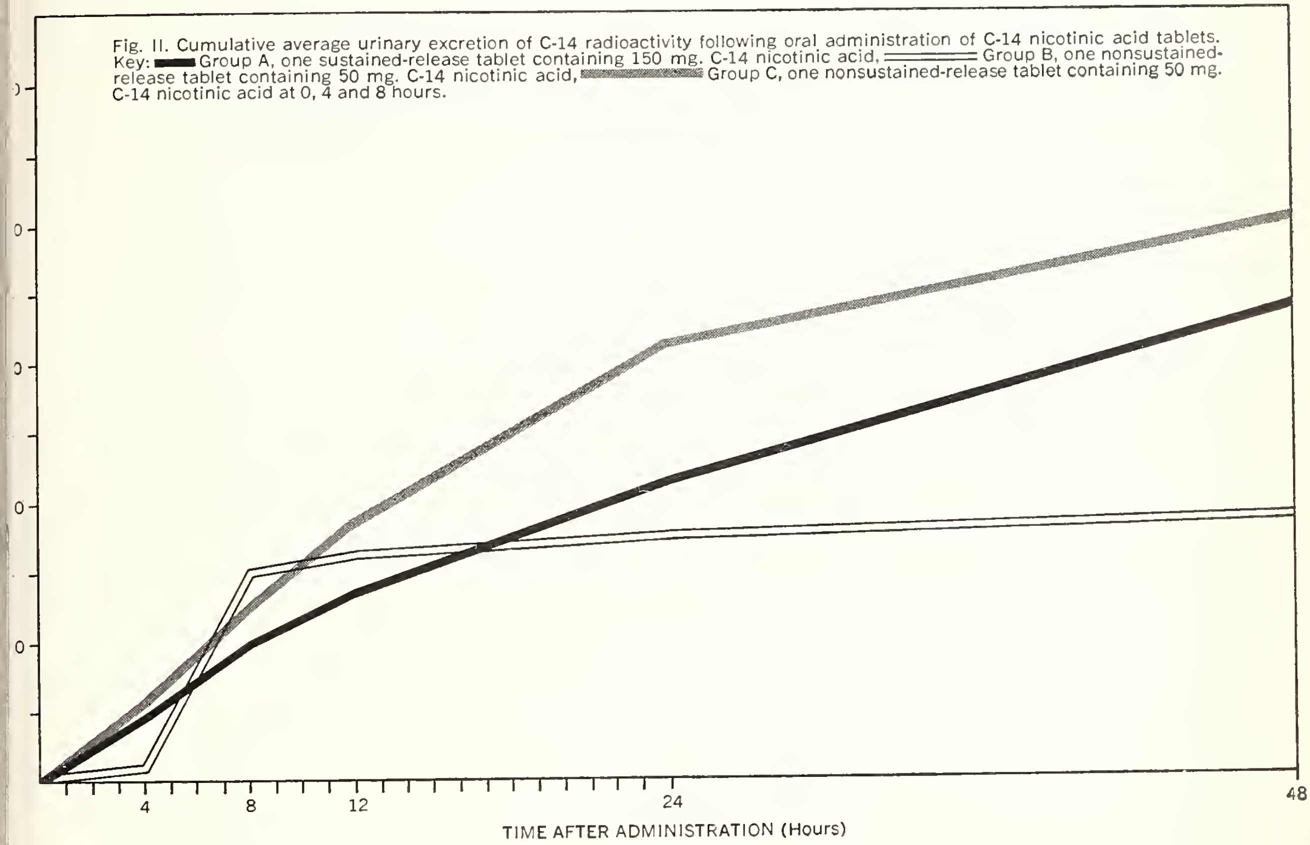
Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

, confused and moody. Personal care, memory, otional stability, social attention improve. Fatigue, lthy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will mit your patients to enjoy the benefits of time-longed nicotinic acid/pentylenetetrazol therapy, in economical price. Dosage is only one tablet every hours.

ntraindications: There are no known contraindications.

cautions: Exercise caution when treating patients h a low convulsive threshold.

Side Effects: Side effects are rarely encountered however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

Geroniazol® TT

nicotinic acid 150 mg., pentylenetetrazol 300 mg.
Tempotrol® Time Controlled Tablet

"First with the Retro-Steroids"
PHILIPS ROXANE LABORATORIES
Division of Philips Roxane, Inc., Columbus, Ohio
A Subsidiary of Philips Electronics and
Pharmaceutical Industries Corp.

AMA President to Speak at Officers' Conference

Milford O. Rouse, M.D.

Milford O. Rouse, M.D., President of the American Medical Association, will appear at the first Medical Society Officers' Conference Nov. 4-5 at the Downtowner Motor Inn in Columbia.

Joseph L. Fisher, M.D., Chairman of the MSMA Public Service Committee, announced that Doctor Rouse has accepted an invitation to speak at the Sunday luncheon which will close the MSMA-sponsored, two-day Conference for Presidents, Presidents-Elect, Secretaries and Executive Secretaries of component societies.

Doctor Rouse, who became AMA President in June, is well-known for his outstanding leadership in the medical profession and as the recipient of many distinguished awards. A native of Jacksonville, Texas, he received his M.D. degree at Baylor University in 1927. He taught at that University's College of Medicine and, since 1943, has been Clinical Professor of Medicine (gastroenterology) at the University of Texas Southwestern Medical School. Before being named President-Elect in 1966, Doctor Rouse served as Speaker of the AMA House of Delegates from June, 1963, and as Vice-Speaker in the preceding four years.

Purpose of the Officers' Conference is to improve relationships and understanding between the State Association and its local Societies and to alert local society leaders to the broad programs and policies of organized medicine.

The Conference program, designed to inform and inspire, will include information and discussions concerning Title XIX and other aspects of medical economics and legislation in Missouri, state legislators' views of the medical profession in relation to health care legislation and workshops on the "nuts and bolts" of medical organization. Also, there will be "brain storming" sessions in which participants will be invited to air criticisms and explore new approaches to medical organization problems.

In addition to Doctor Rouse, guest speakers will include Mr. Art Seeds, AMA Field Representative to Missouri; Mr. Proctor N. Carter, Director, Missouri Division of Welfare; State Representative Patrick J. Hickey; State Representative Ronald M. Belt; and Otis D. Wolfe, M.D., of Marshalltown, Iowa, dinner speaker on public relations.

Doctor Fisher has announced that all medical society officers will receive copies of the Conference program previous to the meeting. He said that the Committee anticipates excellent attendance and is hopeful that the Conference will become an annual affair.

MAGP to Meet at Lake of the Ozarks

The Missouri Academy of General Practice will hold its 19th Annual Scientific Assembly at Tan-Tar-A Resort, Lake of the Ozarks, on Oct. 20-22.

Following the theme of "Family Fun for Family Doctors," Academy officials are planning a program for the enjoyment and education of each member of the Academy and his family.

The 1967 meeting will introduce the first annual MAGP pre-convention golf tournament Friday at Dogwood Hills golf course adjoining Tan-Tar-A Resort.

Outstanding scientific sessions, arranged by the Education Committee, are scheduled for Saturday and Sunday and will include round table discussion groups and lectures. Speakers on the program include Max Levin, M.D., New York; Raymond V. Randall, M.D., Mayo Clinic; George L. Hawkins, Jr., M.D., St. Louis; Dewey Ziegler, M.D., Kansas City, Kansas and Ian Thompson, M.D., Columbia, and John S. Spratt, Jr., Columbia.

A luncheon and fashion show will be presented Saturday for the Academy wives. Also, a tour of Tan-Tar-A Estates will be offered.

The president's installation banquet and dance on Saturday evening will feature entertainment by the "The Singing Doctors" from the Greene County Medical Society, Springfield.

There will be an active, supervised program for children and teenagers and a qualified nursery for the little tots.

DORSEY "FLU-GRAM"

DON'T BE LULLED BY RELATIVE LACK OF FLU LAST WINTER. THIS WINTER BE PREPARED: WHEN THE COMPLAINTS ARE COUGH AND CONGESTION, YOU CAN RELIEVE THESE SYMPTOMS WITH TUSSAGESIC TABLETS. ONE TIMED-RELEASE TABLET AT MORNING, MIDAFTERNOON AND BEDTIME BRINGS UP TO 24 HOURS' RELIEF FROM TROUBLESOME COUGH AND STUFFED AND RUNNY NOSE. TUSSAGESIC IS THE FAMOUS TRIAMINIC FORMULA, PLUS THREE OTHER PROVED CONSTITUENTS. MAKES PATIENTS MORE COMFORTABLE. FAST. ASK YOUR DORSEY REPRESENTATIVE FOR SUPPLY OF STARTER SAMPLES, OR IF FLU IS ALREADY EPIDEMIC, PHONE COLLECT. SEE BELOW.

each

Tussagesic®

timed-release tablet contains:

Triaminic® (phenylpropanolamine hydrochloride 25 mg., pheniramine maleate 12.5 mg., pyrilamine maleate 12.5 mg.)	50 mg.
Dextromethorphan hydrobromide	30 mg.
Terpin hydrate	180 mg.
Acetaminophen	325 mg.

Dosage: Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

DORSEY LABORATORIES
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Lincoln, Nebraska 68501

clip and file under "flu"

For relief of "flu-like" symptoms
Tussagesic timed-release tablets

PHONE COLLECT

For emergency starter samples
to Keith Sehnert, M.D.
Medical Director
(402) 434-6311

Fast delivery by your Dorsey
Representative

IRS: Don't Peel the Nonprofits

On July 18, 1967, Hector W. Benoit, Jr., M.D., President of the Missouri State Medical Association, testified before a joint hearing of the U. S. Internal Revenue Service and the Department of Treasury on a proposed regulation to tax the advertising income of non-profit organizations. His remarks were to "show the impracticability and harmful effect of the Internal Revenue Service's proposal," which would affect the financial status of Missouri Medicine, *official journal of MSMA. Doctor Benoit's remarks were inserted in the* Congressional Record *of the U. S. House of Representatives by Representative Durward G. Hall, Springfield, and in the* Congressional Record *of the U. S. Senate by Senator Edward V. Long, Clarksville. Following is a reprint of Doctor Benoit's comments as published.*

Comments of Dr. Hector W. Benoit, Jr., President of the Missouri State Medical Association

It has been stated by others testifying at this hearing that the publications of tax-exempt organizations offered unfair competition for profit organizations. I would submit that the Missouri State Medical Association is not a source of any significant competition. First of all, all of the advertising which is done in our journal is directed to a very select audience, and such advertising is also seen in other journals, some of which may be the product of specialty publishing houses which are not nonprofit.

It was stated yesterday that the type of advertising seen in non-taxable publications was also seen in those of taxable publications. It would not appear, therefore, that we in any way threaten or compromise the ability of tax-paying publications to obtain advertising. It has been stated in the *Congressional Record* that the annual income from advertising comes to some 15 billion dollars per year, and that the income from advertising in publications of tax-exempt organizations constitutes about 100 million dollars. This is approximately $\frac{7}{100}$ per cent of the total, which could hardly be classified as a significant source of competition, fair or otherwise. The $42,450 worth of advertising which we sold last year for our journal, entitled "Missouri Medicine," is exemplified by the last three copies of this journal, which I wish to submit for your perusal as Exhibit 1. There is not one advertisement in any of these journals which is not directed toward the doctor's needs in managing his patients. To this end, they are educational and are therefore *substantially* related to the purposes for which the Missouri State Medical Association enjoys exempt status. If you have the stomach to read many of these advertisements, you will find they are directed purely to a professional audience and would be unlikely to enhance the public appeal to such lay publications as *Atlantic Monthly, Look, Life*, or the *Reader's Digest*. Again, I say this type of advertising is not competitive with those publications who are promoting the proposed changes in Internal Revenue Service regulations.

I would like, at this time, to submit Exhibit 2, a letter from Price Waterhouse, Inc., analyzing our potential tax obligations if these proposed regulations were implemented. The gain from taxation of our advertising revenue, after deductibles, would be about $5,200 a year. The resultant deficit to the Missouri State Medical Association would then have to be met by an increase in dues of the members to the extent of approximately $1.50 per member. This increase in dues would then, of course, become a deductible item from the personal income tax of the member physicians. Such deduction would reduce the net gain of this taxation to about $2,600 per year.

I think the reasons for the tax-exempt status which medical societies in general now enjoy, whether they be national, state, or even county in their scope, should be restated in general at this time. These segments of organized medicine provide an unending list of voluntary services for the betterment of the health care of the people of this country. The members of such organizations provide without recompense advice and the manpower to implement programs of city and county health authorities, staffing of free clinics and hospitals, advisory roles to state departments of health and state departments of welfare to the regional medical programs which have been set up by the federal government throughout this land, and I could go on and on with a list of such services, which are provided solely for the betterment of the people. The American people enjoy today, and have for years, the highest quality of health care known to man at any time, anywhere. The ability of the physicians of this county to keep abreast of the many advancements in medicine and to provide this continuing improved health care to our people demands at least 10 per cent of the time of the physicians providing this care. The two larger sources of this continual flow of information to the physicians are the journals of medical societies and specialty societies and the regular attendance at medical

THERE'S A FORMULATION FOR EVERY COUGHING NEED

ll the Robitussins contain glyceryl uaiacolate, the outstanding expectorant agent ıat greatly increases the output of lower espiratory tract fluid. Increased RTF volume xerts a demulcent effect on the acheo-bronchial mucosa, promotes ciliary ction, and makes thick, inspissated mucus ess viscid and easier to raise.

For coughs of colds and "flu"
ROBITUSSIN®
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Alcohol, 3.5%	

For unproductive allergic coughs
ROBITUSSIN® A-C
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Pheniramine maleate	7.5 mg.
Codeine phosphate	10.0 mg.
(warning: may be habit forming)	
Alcohol, 3.5%	

Non-narcotic for 6-8 hour cough control
ROBITUSSIN®-DM
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Dextromethorphan hydrobromide .	15.0 mg.
Alcohol, 1.4%	

New! Clears sinuses and nasal stuffiness as it relieves cough
ROBITUSSIN®-PE
Each 5 cc. contains:

Glyceryl guaiacolate	100 mg.
Phenylephrine hydrochloride . . .	10.0 mg.
Alcohol, 1.4%	

	ROBITUSSIN	ROBITUSSIN A-C	ROBITUSSIN-DM	ROBITUSSIN-PE
XPECTORANT	●	●	●	●
EMULCENT	●	●	●	●
OUGH SUPPRESSANT		●	●	
NTIHISTAMINE		●		
ONG-ACTING (6-8 HOURS)			●	
ASAL, SINUS DECONGESTANT				●

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A. H. Robins Company, Richmond, Va. 23220

A·H·ROBINS

meetings. Without the help of the advertising income from these publications and the income of exhibitors at these medical meetings, many of these sources of educational information would be severely restricted, even indeed in many instances, eliminated entirely. For example, I happen to be president of the Kansas City Southwest Clinical Society, the oldest clinical society in the United States. It is a nonprofit medical society which publishes no journal. However, it does put on an annual meeting every fall which attracts some 600 physicians from a six-state area around Kansas City. The annual meeting runs three days, providing as many as 25 outstanding distinguished guest speakers from all over the country to present the latest medical information for those attending. The American Academy of General Practice feels that this program is of such high quality that it has ascribed 25 post graduate credits for those members attending this meeting, toward their annual requirement of 100 credits to maintain their membership. If the income from the technical exhibitors who support this meeting became taxable, the entire organization would collapse and a meeting of demonstrated value to the physicians and therefore to the public, would be destroyed.

I therefore strongly advise that the proposed regulations are not in the best interests of the people of this country and urge that they not be implemented. If this advise be disregarded, I respectfully submit the following suggestion as "example (7)" to the proposed regulations, Section .513-1, as Exhibit 3.

Price Waterhouse & Co.,
St. Louis, July 13, 1967.

Hector Benoit, Jr., M.D.,
President,
Missouri State Medical Association,
Jefferson City, Mo.

Dear Dr. Benoit: We are pleased to respond to your request for comments as to the effect the proposed changes in Income Tax Regulations sections 1.512 and 1.513 may have upon the Missouri State Medical Association if the advertising income in the monthly journal were regarded as "unrelated business taxable income."

We are informed that the Missouri State Medical Association has been ruled to be exempt by Internal Revenue Service under provisions of section 501(c)(6). Heretofore no tax has been asserted upon revenues from the sale of advertising space in the monthly journal. Recently, however, the Internal Revenue Service has proposed amendments to the Regulations under sections 512 and 513 of the Internal Revenue Code relating to the unrelated business income of exempt organizations. The Proposed Regulations (Regulations section 1.512(a)—1 and Regulations section 1.513—1(a) would make it clear that the profits derived from the sale of advertising would now be subject to the income tax on unrelated business income. The severity of these Proposed Regulations is set forth in section 1.513, which provides that the advertising income of an exempt organization's monthly journal would be considered unrelated business income "even though the advertising is of products and services within the general area of professional or business interest of the members and other readers."

While some commentators have asserted that these Proposed Regulations seem questionable in light of the statute under which they are to be promulgated, and applicable court decisions, of immediate interest to the MSMA is the tax treatment of its advertising income of "Missouri Medicine" should these Proposed Regulations be finally adopted.

The Regulations, if adopted, will be prospective only and will apply to taxable years beginning after the date of adoption; however, to illustrate their tax effect, the financial results of "Missouri Medicine" for the year ending December 31, 1966 will be used here. In making our review, the report of Lennertson & Company, Certified Public Accountants, dated January 27, 1967, was made available to us; and our comments will relate to the financial data contained in that report.

During 1966 the journal reported total income of $53,785.67, consisting of $42,450.17 relating to the sale of advertising space and $11,335.50 relating to subscription sales. Since the articles and other editorial content of the journal contributes significantly to the accomplishment of MSMA's exempt purposes, the subscription income would not constitute gross income from an unrelated trade or business and thus would not be includible. However, under the Proposed Regulations, its income from advertising ($42,450.17) would constitute gross income from an unrelated trade or business.

In determining the unrelated business income tax of an exempt organization, deductions are allowed for expenses, depreciation and similar items which would be deductible by a commercial enterprise in computing its income tax. In general, the theme of the Proposed Regulations is to classify them as set forth below.

THOSE EXPENSES ATTRIBUTABLE SOLELY TO THE NONEXEMPT RECEIPTS

All expenses which have a proximate and primary relationship to carrying on the unrelated business would be properly deductible. Thus, salaries of personnel employed full time in carrying on an unrelated business would be deductible. Clearly then, all direct costs of advertising by "Missouri Medicine" would be deductible.

THOSE EXPENSES INVOLVING A DUAL USE OF FACILITIES OR PERSONNEL

Where facilities or personnel are used for both exempt functions and the conduct of an unrelated business, the Proposed Regulations demand an allocation between the two activities on a reasonable basis. Thus, if the editor of "Missouri Medicine" devotes 10 per cent of his time to advertising, 10 per cent of his salary would be properly deductible in computing unrelated taxable business income.

WITHIN NARROW LIMITS, THOSE EXPENSES ATTRIBUTABLE TO EXEMPT FUNCTIONS

Under the Proposed Regulations, in order to obtain a deduction of expenses other than those enumerated above, there must be an exploitation of an exempt status by commingling with its exempt activities, functions normally carrier on by taxable corporations. In such a case, expenses not treated as described in the two preceding paragraphs are allocated first to the exempt function to the extent that income is attributable to that function after taking into account the aforementioned allocations. Any excess of expenses may be allocated to the unrelated business; however, if this allocation results in an excess of expenses over income, in the unrelated business, the excess may not be carried back or over to other taxable years.

Applying these rules to the 1966 operations of "Missouri Medicine," its unrelated business taxable income would be computed by first deducting its specific costs of advertising such as advertising copy, mechanical costs, advertising sales commissions and similar expenses. Clearly, the expenses of $6,944.33 in advertising commissions and $188.85 in cash discounts incurred in 1966 would be properly a deduction from gross income. Also, a reasonable portion of overhead, depreciation, etc., could be properly allocable to the journal's advertising activities. Thus, if 25 per cent of the salary expense of $25,639.16 incurred in 1966 is related to advertising, this amount would be deductible. Finally, all expenses relative to the editorial content, production and distribution of the journal would be deductible to the extent that (1) they exceed subscriptions and other income attributable to the MSMA's exempt functions and (2) they do not cause a loss from the unrelated advertising activity.

It is not possible, without a more detailed analysis of the financial activities of the Association to determine with precision the amount of the unrelated business taxable income for the calendar year 1966. Assuming, for purposes of illustration, that the unrelated business taxable income is $24,000, after application of the $1,000 statutory deduction, the federal income tax of the Association would be $5,280. (The rate is 22 per cent of the first $25,000; 48 per cent on the excess.) In appropriate circumstances which would appear to be applicable to the Association, the amount of dues might be increased to defray the cost of the tax without affecting the amount of income to be taxed. If that is the case, the amount of dues increase would amount to approximately $1.50 per year per member. Assuming further that the members are in an average income tax bracket of 50 per cent, and can deduct the dues, the net gain to the U. S. Treasury would approximate $2,600.

If we can be of further assistance, please do not hesitate to call on us.

Yours very truly,
Price Waterhouse & Co.

Suggestions for "Example (7)" to Proposed Regulations §1.513—1

(Submitted to the Commissioner by Missouri State Medical Association)

Example (7). M, a medical association exempt under Sec. 501(c) 6, publishes a monthly journal. The articles and editorial contents contribute to the accomplishment of purposes for which exemption is granted the association. The advertising space is reserved almost exclusively to the use by drug and supply companies of products and the use of such drugs and products in the treatment of the sick and disabled thereby aiding in the extension of medical knowledge and improvement of patient care, all related to the purpose or function constituting the basis for exemption of the association. Therefore, the income which M receives from such advertising does not constitute gross income from the conduct of unrelated trade or business. At M's annual meeting, such drug and supply companies also have exhibit space or booths for which rental is charged by M to help meet expense of the meeting. Such exhibit booths are not used as a sales facility, but for the acquainting of the physicians attending of the new clinical uses of the drugs and other products in the treatment of patients and the care of the sick, all to the purpose for which M is granted exemption. Such exhibit booth income does not constitute income from unrelated trade or business.

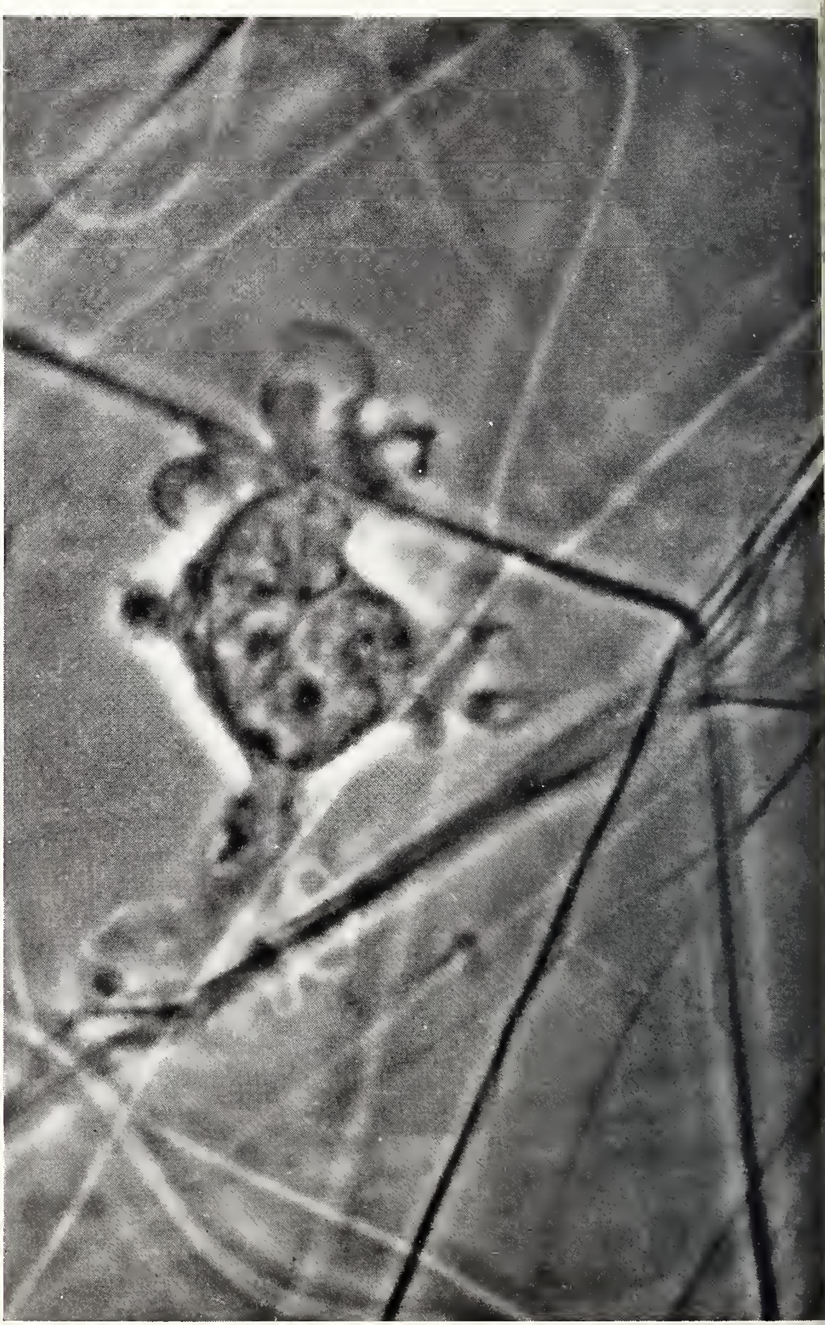
INFLAMMATION:

A cellular fight for life

A SYNTEX REPORT based on recently developed hypotheses about topical corticosteroids, including the cellular theories of inflammation by Thomas F. Dougherty, Ph.D., University of Utah.

You are looking at a fibroblast fighting for life. This cell—one of the most common found in connective tissue—has literally been poisoned by cytotoxins released from other cells that have ruptured. Soon, if the abnormal activity of this fibroblast does not cease, it, too, will rupture and die—one more casualty in the inflammatory wave of destruction precipitated by injury.

Until a short time ago no one had ever witnessed such a scene at the cellular level. Now, through advanced cinemicrographic techniques, it is possible to view and photograph the inflammatory process as produced experimentally in living animal tissue. This method permits new insight into the mechanism of inflammation and the role of corticosteroids in therapeutic management. Equally important, these techniques shed new light on factors that may make one corticosteroid more effective than another—factors that can be correlated with other chemical, biologic, and clinical parameters.



Worldwide clinical experience confirms the predictable therapeutic potential of Synalar

s particularly gratifying that the
ımise of the advanced chemical
ign and high order of bioassay ac-
ty of Synalar (fluocinolone ace-
ide) has been confirmed by
lespread therapeutic application.
leed, the impressive clinical re-
nse rate of Synalar has been docu-
nted in no fewer than 232 papers
m 22 countries.

Representative Clinical Results with Synalar*

Efficacy Documented in over 4,000 Patients

Condition	Number of Publications	Number of Patients	Significant Improvement†
Contact Dermatitis	27	750	713
Eczematous Dermatitis	21	472	409
Seborrheic Dermatitis	18	442	426
Atopic Dermatitis	24	460	426
Psoriasis	36	1,699	1,510
Neurodermatitis	18	351	324
Total	144	4,174	3,808

*Complete bibliography on request.

†Expressed by the authors as excellent, very good, good, complete remission of inflammation, etc.

ESCRIBING INFORMATION
: *initiation of therapy:* Cream 0.025%,
nd 15 Gm. tubes, 425 Gm. jars; *for
ollient effect:* Ointment 0.025%, 15
ı. tubes; *for maintenance therapy:*
am 0.01%, 15 and 45 Gm. tubes, 120
ı. jars; *for intertriginous or hairy
s:* Solution 0.01%, 20 cc. and 60 cc.
stic squeeze bottles; *for infected in-
nmatory dermatoses:* Neo-Synalar®
am (0.025% fluocinolone acetonide,
mycin sulfate, equivalent to 0.35%
mycin base), 5 and 15 Gm. tubes.
NTRAINDICATIONS: Tuberculous, fungal,
l most viral lesions of the skin, (in-
ding herpes simplex, vaccinia, and
icella). Not for ophthalmic use. Con-
indicated in individuals with a his-
y of hypersensitivity to any of the
nponents. PRECAUTIONS: Synalar prep-
tions are virtually nonsensitizing and
irritating. However, the solution may
duce burning or stinging when ap-
ed to denuded or fissured areas. In
ne patients with dry lesions, the solu-
n may increase dryness, scaling or
hing. While topical steroids have not
n reported to have an adverse effect
pregnancy, the safety of their use on
gnant females has not absolutely
n established. Therefore, they should
t be used extensively on pregnant pa-
nts, in large amounts, or for prolonged periods of time. Prolonged use of any antibiotic may result in overgrowth of nonsusceptible organisms; if this occurs, appropriate therapy should be instituted. When severe local infection or systemic infection exists, the use of systemic antibiotics should be considered, based on susceptibility testing. SIDE EFFECTS: Side effects are not ordinarily encountered with topically applied corticosteroids. As with all drugs, however, a few patients may react unfavorably to Synalar under certain conditions. The neomycin in Neo-Synalar Cream rarely produces allergic reactions.

REFERENCES: 1. Lerner, L. J., Bianchi, A., Turkheimer, A. R., Singer, F. M., and Borman, A.: Anti-inflammatory steroids: potency, duration and modification of activities. Ann NY Acad Sci 116:1071 (Aug. 27) 1964. 2. Idem: Comparison of anti-granuloma, thymolytic and glucocorticoid activities of anti-inflammatory steroids. Proc Soc Exp Biol Med 116:385 (June) 1964. 3. Ringler, A.: Activities of adrenocorticosteroids in experimental animals and man, in Dorfman, R. I.: Methods of hormone research, New York, Academic Press, 1964. vol. III. pp. 234-280. 4. Gubersky, V. R.: To be published.

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dermatoses...
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*Milligram for milligram
one of the most active topical
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in antiinflammatory and
antipruritic activity*

*Results often comparable to
those of systemic corticosteroids
with fewer hazards*

WILLIAM B. NESER, M.S., *Columbia*

Environmental Indicators and Implications for Control of Infectious Syphilis

The persistence of infectious syphilis has prompted a re-examination of venereal disease prevention and control strategy. Public health concern was generated when the national rate of reported primary and secondary syphilis infections increased from 3.8 cases per 100,000 in 1957 to 12.3 cases per 100,000 in 1965.[1] The American Medical Association responded in 1965 with a campaign to encourage prevention and prompt treatment of venereal disease. This movement was welcomed by the Missouri State Medical Association Committee on Control of Venereal Disease. The current venereal disease control strategy consists of planning in two basic areas: (1) epidemiologic efforts which include total case reporting, early treatment and increased identification of high risk groups; and (2) education through promoting public awareness and school instruction regarding the nature and treatment of venereal diseases. This study attempts to identify further the high risk groups and was initiated with the encouragement of the Committee on Control of Venereal Disease.

Infectious syphilis has the capacity to be ubiquitous in a population. Specific identification of high risk groups is necessary, however, both for initiating intensified early case finding and developing appropriate educational activities. Attempts to identify the high risk segments of the population include a variety of approaches. The American Social Health Association[2] annually issues a description of reported case variables and venereal disease control efforts. Deschin,[3] Ekstrom[4] and others have made in-depth studies of the social and psychiatric characteristics of infected teenagers. Population features also are involved in educational campaigns and evaluations such as the one conducted by Rosenblatt and Kabasakalion.[5] Studies of infected individuals or the general population, however, do not really pin-point the social environment of the groups most at risk. The present study attempts to overcome these defects by relating the infected individual to this neighborhood environment and enumerating the significant aspects of the environment.

A review of 912 cases of infectious syphilis reported to the Missouri Division of Health in 1962-1965. The statistics revealed have been termed "shocking" and verify the need for prevention and treatment of the disease. This paper is based upon a study which was encouraged by the Committee on Venereal Disease of the Missouri State Medical Association and constitutes the first section of that Committee's program of venereal disease prevention and control. Mr. Neser is Assistant Professor in the Department of Community Health and Medical Practice, University of Missouri Medical Center.

Materials and Methods

All cases of primary and secondary syphilis reported to the Missouri Division of Health during the calendar years 1962, 1963, 1964 and 1965 were reviewed. A precoded data sheet was devised and used to insure uniform collection of personal characteristics such as age, sex, marital status and other epidemiologic variables from the Division of Health records.* To obtain general social indicators of the high risk population, the neighborhood of each case was identified by collating a partial address with city maps and census tract maps. Individual census tract identification provided a key to actual neighborhood variables such as housing condition and tenure, adult educational level, social composition, etc. contained in the 1960 census findings.[6] After neighborhood variables were entered on the corresponding case data sheets, data cards were punched and machine processed.

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* Case confidentiality was protected through the omission of names and complete addresses in the data obtained through the cooperation of the Missiouri Division of Health.

RESULTS

The Missouri Division of Health was informed of 918 cases during the four years studied, and at least some personal data were available on the 912 cases reported during that time. Among the infected individuals, it was found that 609 were male and 303 female; 242 were white and 665 were non-white. Patients ranged in age from 13 to 74 years. The largest single age group was the 20 to 24 year category (Table 1). The ranking of age groups by average annual rate of infectious syphilis was: first, the 20 to 24 year group with a rate of 26.6 per 100,000; second, the 25 to 29 year group with a rate of 16.3 per 100,000; and third, the 15 to 19 year group with a rate of 14.6 per 100,000 (Table 1). This ranking order is a replication of national findings.[7] The average annual rate of reported infections in Missouri's total population was 5.3 cases per 100,000. The rates by sex were 7.2 male cases and 3.4 female cases per 100,000 population.

The marital status of reported cases was: 448 or 49% were single, 220 or 24% were married, 49 or 5% were divorced, 80 or 9% were separated, 9 or 1% were widowed and 112 or 12% were not known. Variation in reporting forms limited the amount of information obtained regarding occupation and employment status of patients. In the 297 cases where employment status was listed, it was found that 210 or 71% of the patients were employed. The occupations of patients ranged from professional persons to laborers. The largest single occupational category, service workers, contained 64% of the 147 patients with known occupations.

At the time of treatment, 504 patients presented primary syphilis and 407 had infections in the secondary stage. The probable sexual source of infections reported by patients was: heterosexual contacts by 685 patients, homosexual contacts by 83 patients, bisexual contacts by 119 patients and source not reported by 25 patients. The number of recent sexual partners reported by patients as suspected infected contacts ranged from one to 39 with 4.1 being the mean number of partners per patient. A total of 3,600 contacts were reported which provides a contact index of 3.9 contacts named per original patient.[8] Through epidemiological investigation, 936 contacts were located and 420 of these were new cases. Compared to the original 912 reported cases, the 420 new cases discovered through investigation yield a "brought-to-treatment" index of 0.46. Original reporting sources were: private physicians reported 319 cases, hospitals and outpatient departments reported 36 cases, local health departments reported 546 cases and other sources reported a total of ten cases. The location of actual patient treatment was essentially the same as the reporting source.

TABLE 1

PRIMARY AND SECONDARY SYPHILIS IN MISSOURI
DISTRIBUTION BY AGE FOR 1962-1965

Age	*Number Infected*	*Total Population**	*Average Annual Rate Per 100,000*
10-14	11	377,202	0.7
15-19	180	308,322	14.6
20-24	268	252,329	26.6
25-29	162	248,323	16.3
30-34	99	265,805	9.3
35-39	63	274,080	5.7
40-44	62	262,866	5.9
45-49	23	262,030	2.2
50-54	17	248,605	1.7
55-59	8	228,704	0.9
60-64	9	196,370	1.1
65-69	4	174,223	0.6
70-74	1	141,648	0.2
Not Stated	5		
Total	912		

* Based on 1960 Census (not adjusted for population growth).

A variety of epidemiological techniques were used by health department personnel to find the sources of patient infection and to locate others potentially infected by the patient. Single tracing techniques were used as follows: investigation of sexual partners or "contacts" named by patients in 397 cases; investigation of "clusters" of associates or friends named by patients in four cases; and investigation of family members in 48 cases. Multiple detection approaches were used in such combinations as: contact and cluster investigation in 323 cases; contact and family investigation in 81 cases; cluster and family investigation in two cases; and all three techniques—contact, cluster and family investigation —in 28 cases. The method of additional case detection was not known in 29 cases.

U. S. Census data regarding neighborhood housing and population characteristics were obtained for 702 or 77% of the reported cases. As these data are available for metropolitan areas only, the following results pertain to just the 702 urban patients. Of the cases in this sample, 129 or 19% of the patients lived in "census tracts" or large neighborhoods in which the majority of people owned their own homes, while 543 or 81%

of the infected individuals lived in census tracts in which the majority of housing units were rented. A total of 506 patients or 75% lived in neighborhoods composed mostly of sound housing; 143 or 22% of the patients lived in census tracts containing chiefly deteriorating dwellings; and 24 or 3% of the sample population lived in neighborhoods classified as having dilapidated housing units. The mobility of the population surrounding patients, as expressed by housing tenure, was: 570 or 81% of the patients lived in census tracts having a major housing tenure of two years or less; 41 or 6% of the cases inhabited tracts having a general housing tenure of three to six years; and 91 or 13% of the sample were located in tracts having a major housing tenure of seven or more years. In contrast, statewide urban housing tenure for the general population was: two years tenure or less for 39% of the people, three to six years tenure for 27% of the people and seven or more years tenure for 34% of the population.

A key factor sought in this investigation was the level of *adult* education in the population surrounding high risk groups. The Bureau of the Census reports the educational level of a census tract in terms of the median school years completed by all adults at age 25 years and over. The median educational level of adults in the neighborhoods of the 702 cases in this sample ranged from six years in one case to more than 12 years (college) in three cases. In distribution, 143 or 20% of the cases came from neighborhoods having a median adult educational level of less than nine years; 313 or 45% of the infected individuals lived in census tracts having a nine year median level; and 246 or 35% of the patients inhabited tracts having a median adult educational level of ten years or more. Thus, the largest single group of patients was surrounded by adults having a median educational level of nine years. This finding corresponds closely with the general population since the median educational level of the total state population and of the total urban population in Missouri is 9.6 years and 10.4 years respectively.

An index of neighborhood stability is often reflected in the white-nonwhite population ratio. For the purposes of this study, a census tract containing a population minority (either white or non-white) of less than 10% was considered to have a "homogeneous" population; a tract containing a minority of 10% to 25% was classified as a "moderately heterogeneous" population; and a tract containing a minority which constituted more than 25% of the population was classified as "grossly heterogeneous." In this study, it was found that less than 1% of the cases lived in census tracts having a homogeneous population. A total of 47 patients or 7% of the sample lived in a greatly heterogeneous population and 650 infected individuals or more than 92% of the sample lived in census tracts having a moderately heterogeneous population.

DISCUSSION

There are some important limitations to this study which require recognition. Census material, which was used for both economic reasons and the protection of case confidentiality, is known to present a static picture of a population, to have some sampling bias and to be somewhat arbitrary in the grouping of people. A more severe limitation, however, may be bias existing in the reporting system. Curtis[9] noted the marked difference between reported and actual venereal disease morbidity. In view of his findings, it must be stressed that the population identified by this study represents only reported cases. If such a bias exists in Missouri (as indicated by Neilson[10]), the high proportion of sexual deviates found in this study suggests not only increased risk of infection but also increased "risk" of being a reported case for those who deviate most from the social standards.

Within the above limitations, it was found that most of the 912 patients in this sample were less than 30 years of age, were not married and were treated at local health departments. The majority of the 702 urban patients lived in a physical environment of sound but rented housing. Their human environment consisted of a mobile, unstable population as illustrated by the short housing tenure and heterogeneous racial groupings. The adults around the patients, however, did not appear to differ markedly from the general population with regard to the amount of school years obtained. Thus, if environment has a role in the identification of groups most at risk to syphilis infection, it would appear that the stability of social environment is a more important indicator than either the quality of physical environment or the general amount of education obtained by people in the neighborhood. This finding regarding the educational level of the groups most at risk holds significance for health educators and journalists interested in designing information for the prevention and control of syphilis. Also, the nine year median level of adult education should be of much concern to those who hope to use parents as the prime teachers for venereal disease prevention in youths.

The above generalizations regarding environment cannot be documented for more than 120 infected persons who were located in 30 rural counties. This is a limitation of census data. There is no reason to believe, however, that the above observations would not apply to a rural population.

Summary

All cases of primary and secondary syphilis referred to the Missouri Division of Health for the period 1962-1965 were reviewed and collated with census data in an attempt to identify environmental indicators of the high risk groups. Physical environment and general educational level of surrounding adults appear to be of little value as indicators. Population mobility and instability, which affect the quality of social relationships, appear to be more useful in locating those groups with the highest potential for venereal disease infection.

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Houston to Host AMA Clinical

A scientific program especially designed for the physician in practice again will be featured at the Clinical Convention of the American Medical Association. The four-day meeting in Houston Nov. 26-29 will include scientific sessions on 18 major topics, four postgraduate courses, breakfast roundtable conferences, closed-circuit television and medical motion picture programs, and more than 150 scientific exhibits.

Of special interest are the postgraduate courses, which have been expanded to four topics: Fluid and Electrolyte Balance, Oncology, Cardiovascular Disease and Obstetrics and Gynecology. Each course will consist of three half-day sessions featuring outstanding teachers.

Scientific and industrial exhibits and all scientific meetings will be in Houston's new Astro Hall, a part of the Astrodome complex.

Topics at the general scientific sessions include: aerospace medicine, antibiotics, arthritis, cancer, cardiovascular medicine, cardiovascular surgery, dermatology, endocrinology, gastroenterology, general surgery, genitourinary treatment, geriatrics, obstetrics and gynecology, ophthalmology, otolaryngology, pediatrics and psychiatry. There also will be a session on "new cares" featuring a discussion of legal and social problems now faced by the physician.

Breakfast Rountable Conferences will discuss (1) "Indications and Limitation of Uses of Antibiotics," (2) "The Moral and Ethical Aspects of Caring for the Dying Patient," (3) "Management of Cerebrovascular Insufficiency" and (4) "Adolescence, Age of Rebellion; Some Related Psychiatric Aspects." Numbers 1 and 2 will be Tuesday morning, Nov. 28; numbers 3 and 4 will be Wednesday morning, Nov. 29. Tickets will be $3 each.

An outstanding program of closed-circuit color television and more than 25 medical motion pictures will be presented. Live, color-television broadcasts of surgery and discussions from Houston's Hermann Hospital will be seen on a large screen in Astro Hall. Medical motion pictures will include three or four premier showings, plus several films that were well received at the AMA annual convention last June.

The AMA House of Delegates will meet at the Shamrock-Hilton Hotel.

The Ninth National Conference on the Medical Aspects of Sports will be Sunday, Nov. 26, at the Hotel America in conjunction with the Clinical Convention. Sponsored by the AMA Committee on the Medical Aspects of Sports, the meeting will feature morning, afternoon and evening discussions of problems faced by team physicians at all levels of athletic competition.

For advance registration at the Clinical Convention, write to the Circulation and Records Department, American Medical Association, 535 N. Dearborn St., Chicago, Ill. 60610.

For information on hotel reservations, write to the AMA Housing Bureau, Suite 1101, 1006 Main Street, Houston, Texas 77002.

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ROBERT W. BARTLETT, M.D., *St. Louis*

Safety Factors in Resections of the Colon and Rectum

Two or three years ago, one of our senior surgical residents at Barnes Hospital reviewed all of the resections of the large bowel carried out at this Medical Center in recent years. Subsequently, he informed me that the cases resected by me had resulted in an unusually low hospital mortality. It has seemed worth while, therefore, to analyze and report the various factors which necessarily must have contributed to this favorable result.

Pre-Operative Phase

Careful General Evaluation

The series under study consists of 123 consecutive resections of the colon and/or rectum by the author on private patients between Jan. 1, 1955 and Dec. 31, 1966 at the Washington University-Barnes Hospital Medical Center. The resections were performed for both benign and malignant lesions. Initially, a careful general evaluation of each patient was made with special reference to the correction of existing anemias and the treatment of cardiac and pulmonary abnormalities.

Treatment of Anemias, Pulmonary Cardiac and Other Abnormalities

In recent years, we have instituted intermittent positive pressure breathing preoperatively in emphysematous patients and are of the opinion that this has been of benefit in lessening postoperative pulmonary complications in this particular group. The preoperative evaluation and treatment of the patients in this series were usually carried out with the cooperation of capable internists.

Anesthesiology Consultation

In view of the fact that the type of anesthesia and its administration plays a vital role in the recovery of the patient (especially in the elderly, debilitated), an anesthesiology consultation frequently was obtained preoperatively in order to determine the safest method in a given case.

Preparation of Bowel

Some years ago, the greatest hazard connected with resection of the large bowel was postoperative peritonitis. However, in more recent times, methods of preoperative preparation have been developed which have decreased greatly the incidence of that serious complication. To my mind, there are two equally important parts in the preoperative preparation of the bowel, namely: the administration of the nonabsorbable drugs, such as sulfathaladine, sulfasuxidine and neomycin, separately or in combination, to obtain a reduction in the bacterial flora of the colon and rectum; and secondly, the obtaining of a mechanically empty bowel. In order to accomplish the latter,

A review of safety factors in preoperative and postoperative procedure and technique and postoperative care used successfully by the author in a series of 123 consecutive resections of the large bowel. An unusually low hospital mortality rate resulted. This paper was presented originally at the 1967 MSMA Annual Session. Doctor Bartlett is Associate Professor of Clinical Surgery at the Washington University School of Medicine and Barnes Hospital.

it is my practice to switch the patient from a low residue to a clear liquid diet 48 hours preoperatively and at noon on the day preceding operation to administer to an average size adult 45 cc of castor oil or 75 cc of neoloid, the latter accomplishing the same end, but being more pleasant to take.

Except in the presence of retained barium, it is my belief that enemas have rather limited usefulness in preoperative preparation inasmuch as they rinse out some of the nonabsorbable drugs that are being administered. One cannot emphasize too strongly the fact that it is practically impossible to obtain safe and satisfactory bowel preparation in the presence of retained barium or feces. Whenever there is the slightest question as to whether or not this situation exists, one can place the patient under the fluoroscope or have a flat plate made of the abdomen on the afternoon preceding the scheduled surgery.

CHOICE OF OPERATIONS

Two-Stage Operations Whenever Obstruction Is Present

Probably the one most important factor concerning the survival of the patient is a complete understanding by the surgeon of the fact that resection and primary anastomosis should never be undertaken in the presence of obstruction. Under such circumstances, one is dealing with a very ill patient who should be subjected only to a minimum trauma. In addition, but of secondary importance, is the fact that there is a great disparity in the diameter of the proximal and distal bowel and that the former, also, is in poor condition to hold sutures.

Typical Examples

The typical example of the point which I have just emphasized is the patient who is brought into the hospital by ambulance and greatly distended and extremely ill due to a constricting carcinoma of the left colon, most often in the sigmoid segment. This individual is in grave danger of perforation of the greatly distended cecum secondary to gangrene of the ischemic bowel wall. The operative procedure indicated under these circumstances is an emergency proximal decompression which will be either a colostomy of the transverse colon or a cecostomy, depending upon the preference of the surgeon. Following this, the patient's general deficiencies can be corrected, the bowel prepared in the usual manner and a definitive resection carried out with safety in approximately ten days. A discussion of the choice between transverse colostomy and cecostomy is not within the scope of this paper.

Another common example illustrating the point under discussion applies to the patient with an acute perforation of a sigmoid diverticulitis in which there is also concomitant obstruction of a greater or lesser degree. The careful and well-informed surgeon will drain the area of perforation and perform, at the same time, a completely diverting transverse colostomy. With the fecal stream no longer passing over the area of acute inflammation, the inflammatory reaction after two or three months will usually have subsided completely so as to permit a safe, elective anterior resection plus closure of the colostomy. The latter step I perform rather routinely in order to save the patient still a third hospitalization, but because of the two fresh anastomoses, I feel that a # 26 red rubber catheter "pursestringed" into the transverse colon, brought out through the omentum and removed about the seventh postoperative day constitutes an additional safety factor when the above described dual procedure is performed.

Low Anterior Resection Versus Abdomino-perineal

While still on this very important subject of choice of operations, a word regarding low anterior resection of the rectosigmoid vs abdomino-perineal resection would seem to be in order. It is certainly an established fact that the former carries a higher risk and complication rate than does the classical Miles abdomino-perineal resection, except in the hands of surgeons having extensive experience with this operation. In addition, the low anterior resection is probably not quite as good a cancer operation as is the abdomino-perineal.

Palliative Resections

In cases of cancer of the colon or rectum when distant metastases, notably in the liver, render cure impossible, I feel very strongly that palliative resection should be carried out since elimination of the bleeding and sloughing malignant ulcer renders the patient's remaining period of life far less miserable than if either a proximal colostomy or nothing at all is done. The exception to the performance of palliative resection is when extensive carcinomatosis with ascites is encountered at laparotomy.

Early Ligation of Venous Drainage

While not relating to the question of safety for the immediate postoperative period, it should not be amiss to point out that at operation the performance of early ligation of the venous drainage before any manipulation of the tumor itself may be important in reducing the systemic dissemination of malignant cells during surgery.

Bladder Care

Following the administration of the anesthetic, whether it be general or spinal, one should have a Foley catheter inserted into the bladder for two reasons. First of all, a bladder which gets increasingly larger during the course of the operation interferes with space and exposure needed in the operative field and, secondly, it is a guarantee against over-distention of the bladder in the immediate postoperative period. When the latter occurs and a catheter is inserted, carrying even under the best of technique some bacteria with it, a urinary tract infection all too often follows.

Technical Errors

Accurate Open Anastomosis

Errors in operative technique are probably the most frequent cause of complications and postoperative deaths in large bowel resections. It is the well-prepared, mechanically-empty bowel that permits a careful, accurate, open anastomosis which certainly results in fewer suture-line technical errors than does a closed anastomosis, thus minimizing the occurrence of leaks and obstructions at the suture-line.

While most surgeons will make a two-layer anastomosis, either with silk or a combination of fine chromic catgut and silk, I have had no hesitancy in performing a one-layer interrupted silk closure in a difficult low anterior sigmoid anastomosis. In this situation, as well as with most routine resections, I make every effort to protect the suture-line with fat tabs sutured over it.

Tension on Suture Line

The permitting of too much tension on the suture line is another serious technical error which can be avoided through the medium of adequate mobilization by incising the peritoneum lateral to the bowel, by taking down the flexures or by a combination of both.

Twists of Ends of Bowel At Anastomosis Site

It is essential that one get the mesenteries of the bowel properly lined up; otherwise, twists of the ends of the bowel at the anastomotic site may occur and lead to fatal complications.

Impaired Blood Supply at Anastomosis

The blood supply to the remaining bowel following resection must not be compromised. In the vast majority of instances, if one is careful to preserve the integrity of the marginal artery, the color of the bowel when the anastomosis is completed will be normal. When there is any question of viability of bowel wall, it is far safer to re-resect rather than leave doubtful bowel, close the abdomen and thus take a chance on a subsequent perforation.

Failure to Close Mesenteric Defects

One should always close mesenteric defects when technically possible inasmuch as herniation of the small bowel through a small defect may produce an acute intestinal obstruction.

Large Defects Are Safe

When, at times, it is not possible to approximate the mesenteries, as may be the case when the distal half of the transverse colon, splenic flexure and proximal half of descending colon have been resected, it is quite safe to leave behind a large mesenteric defect. In the series of resections under study, a case in point exists in which in attempting to join the transverse mesocolon to that of the mid-descending colon, I created such an acute kink of the small bowel at the ligament of Treitz that symptoms of severe high bowel obstruction ensued, but were promptly relieved when I reopened the incision and divided two or three of the interrupted stitches which had been responsible for producing the kink.

Failure to Expose and Protect Ureters

In resections of the right and left colon plus rectum, one must always expose and protect the ureters since only in this way is it possible to be certain that one or both of them have not been traumatized.

There have been many opinions expressed as to whether or not drainage should ever be instituted following what one regards as a clean colon resection. I, myself, have never had cause to regret placing a Penrose drain retroperitoneally and bringing it out suprapubically in instances where I have mobilized the rectum out of the hollow of the sacrum to facilitate the performance of a moderately low anterior resection and anastomosis. In this instance, it is seldom possible to obtain complete hemostasis. When a serosanguineous collection of fluid forms in the cul-de-sac, it will occasionally develop into a pelvic abscess resulting in additional complications well known to all of us.

Ileostomy dysfunction secondary to total colectomy and ileostomy can be an extremely serious complication of this radical procedure. Therefore, the surgeon undertaking this operation must know how to avoid and, also, to deal with this situation should it occur. Time and space do not permit a discussion of this important subject.

Post-Operative Care

Avoid Nasogastric Tube

In briefly discussing the postoperative care of patients upon whom I have performed resections of the colon or rectum, I would like, first of all, to stress the point that I have for many years avoided the use of nasogastric tubes because of the greatly increased incidence of pulmonary complications in patients having them in place for several days; secondly, they are quite uncomfortable; and, finally, they are, for the most part, unnecessary.

Nothing by Mouth

If one will place resection cases on "nothing by mouth," administer Prostigmine (1:2000) 1Amp "I.M." $\bar{q}$ six hours for eight doses to maintain intestinal muscle tone and discontinue all opiates at the end of 48 hours, the vast majority of these patients will have audible peristalsis and will be able to tolerate clear liquids on the second or third postoperative day. I think I can state with complete honesty that not more than one in ten patients thus treated by me will begin to show signs of ileus on the third or fourth postoperative day. Under such circumstances, nasogastric suction is clearly indicated and will correct the situation in between 12 and 24 hours.

TABLE 1

Resections of Colon and Rectum

Consecutive Cases 1/1/55-12/31/66

Types	*No.*	*Hospital Deaths*
Rt. Hemicolectomy	**21**	**0**
Trans + Splenic Flexure	**8**	**0**
Total + Ileostomy	**6**	**0**
Radical Subtotal	**3**	**0**
Lt. Colectomy	**52**	**1**
Abdomino-Perineal	**33**	**0**
Total	**123**	**1**

Hospital Mortality 0.81%

In order to avoid nasogastric tubes following gastric surgery, I always perform a tube gastrostomy and, in the occasional case of a very extensive resection of the large bowel, I also regard gastrostomy as prudent.

Broad Spectrum Antibiotic

It is my belief that a broad spectrum antibiotic for several days following these operations is valuable and, accordingly, it has been my practice to employ one in most instances.

Early Ambulation

Early ambulation, the merit of which is no longer in doubt, is instituted on the day following operation, even after abdomino-perineal resections. In addition, in recent years intermittent positive pressure breathing has been administered, usually for two or three days as there seems to be good evidence that the incidence of pulmonary complications is lessened thereby.

I think it will be agreed that a postoperative mortality of less than 1% (Table 1) for a series of considerably more than 100 consecutive resections of the colon and/or rectum is a low one, since most similar series report a hospital mortality varying between 2% and nearly 10%. It would seem logical, therefore, that some combination of the safety factors enumerated by the author was responsible for this result.

DOUGLAS A. RIES, M.D., ***Clayton***

A New Material for Splinting in Hand Surgery

The author presents a preliminary report on the use of a new material for splints. Doctor Ries is in the private practice of medicine.

THE PURPOSE of this paper is to present and describe a new material for making lightweight, molded, plastic splints. This material is believed to be superior to plaster of Paris, aluminum and other materials for use in splinting the hand after surgery and for treatment of arthritic hands.

The material offers the advantages of being thin and light, yet durable and strong. The splints are impervious to water and can be cleaned repeatedly with soap and water or sterilized. They can be molded to the hand, wrist or forearm, are comfortable to wear and do not irritate the skin. If padding is desired, a thin adhesive moleskin is all that is needed. The splints may be adapted to either static or dynamic splinting by incorporating outrigger or hinged attachments.

The only disadvantage found by the author is that, in the process of setting, the material imparts a feeling of local heat which does not appear to be excessive. The heat can be greatly diminished by holding the hand in cool water for a few seconds until the splint has set sufficiently to retain the desired shape.

The material consists of a pink powder and clear liquid manufactured under the trade name of "Shur-Tray,"* a product that has been used by dentists. Both the liquid and powder are methyl methacrylate combined with a small amount of other material that acts as a filler and gives smoothness. The liquid and powder are mixed in proper proportions until they reach the approximate consistency of putty. The material is then rolled out, much like pie crust, to a thickness of about one-sixteenth to one-eighth inch, cut to pattern, molded to the part of the hand or arm to be splinted and allowed to set.

Figs. 1, 2 and 3 illustrate the use of this material in splinting hands. It will be noted that velcro fasteners and elastic tape have been used to secure the splint. The author uses a contact cement for this purpose.

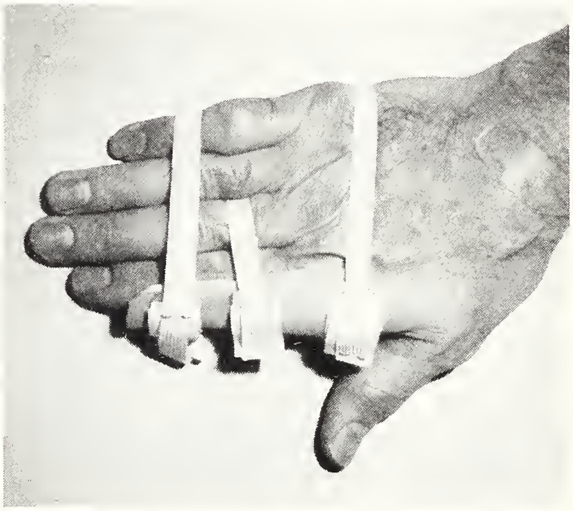

Fig. 2 Acrylic splinting of arthritic hand to prevent ulnar deviation or drift.

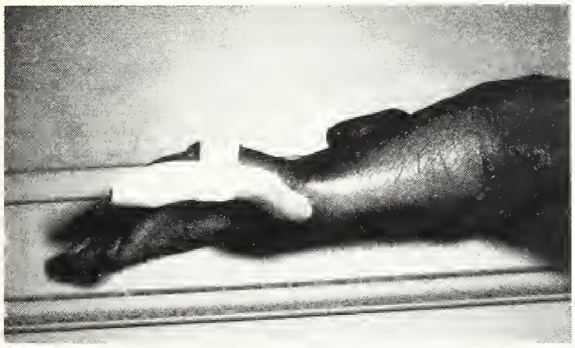

Fig. 1 Acrylic splint applied to volar aspect of left small finger to overcome extension disability.

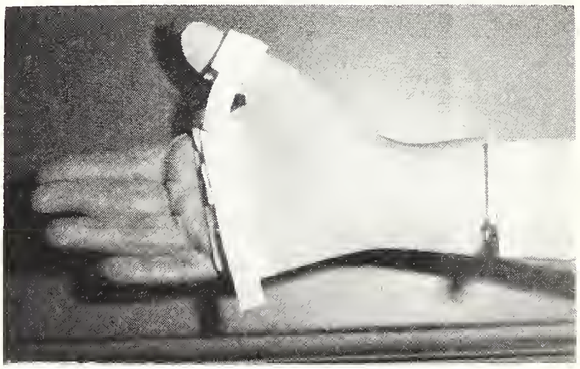

Fig. 3 Acrylic splinting of volar hand and wrist is with thumb in abduction.

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* From Modern Materials Manufacturing Co., St. Louis, Mo.

HENRY M. PARRISH, M.D., CAROLE A. CARR, M.S.P.H.,
M. S. KAHN, M.S. *and* **STANLEY L. SILBERG, Ph.D.,** ***Cloumbia***

Coronary Atherosclerosis and Clot Formation in Women with Coronary Heart Disease

A RECENT STUDY showed an increasing autopsy incidence of coronary heart disease (CHD) among women from 1935-1949 to 1950-1959.[1] There was a concomitant increase in the prevalence of coronary atherosclerotic blockage among a "control group" (accident victims plus cancer patients) in the same autopsy population. These findings are not consistent with mortality data for white women in the United States. Moriyama and associates[2] reported a decrease in cardiovascular-renal disease death rates among white females during the past 40 years. Stamler[3] believes that the death rates for CHD among white males have increased, whereas the death rates for white females remained low, with little or no rise.

The purpose of this investigation is to compare the coronary arteries of women with CHD with those of a "control group" in an autopsy population thought to be reasonably representative of the general population, to ascertain whether or not the basic pathology of CHD has changed during a 25-year period, to determine the relationship of coronary atherosclerosis and clot formation to CHD and to study other factors associated with the two latter conditions. A study of these relationships among males with CHD in the same autopsy population was reported previously.[4]

MATERIALS AND METHODS

This study is based on the pathologic findings in white women 40 or more years of age on whom autopsies were performed from 1935 through 1959. The autopsy population used for this study has been described in detail elsewhere.[1]

Women in the following disease groups were studied: (1) those dying with cancer of various sites; (2) those dying from accidental causes; (3) those dying with CHD without concomitant diabetes mellitus; and (4) those dying with CHD and concomitant diabetes mellitus. Only primary carcinomas of the specific organ or organ system were utilized. Cancer patients with concomitant diabetes mellitus were excluded because of the association between diabetes and coronary atherosclerosis.

Patients who died from accidental causes were used as a control group. Persons who come to autopsy as a consequence of accidental deaths should constitute a suitable control group, since they are not autopsied for a specific illness. Most victims were passengers in automobile accidents. No drivers were included.

Matching Records. This study was limited to white women. Adjustment for age was made by the technique of "balancing" described by Cochran.[5] Year of death was adjusted by matching the records in the various disease groups by five-year periods (for example, 1935-1939, 1940-1944, 1945-1949, etc.). Hypertension was defined as a blood pressure reading above 150, systolic and/or 90, diastolic. Hypertension was not considered an important source of bias in comparing cancer patients with accident victims, since 21% of the accident victims and 24% of the combined cancer patients had hypertension. Also, there was no great variation in the percentage of patients with hypertension among the various specific cancer groups. The Metropolitan Life Insurance Company data on the weight and height of white females over the age of 25 were used to calculate the percentage of patients who were 15% or more underweight and those who were 15% or more overweight. It must be recognized, however, that the weight of a patient at time of death may not be representative of his weight throughout most of life. Also, records of accident victims were matched with those of cancer patients to be sure that the reproductive rates (determined from the number of abortions, miscarriages and term births) and the proportion of patients who had been castrated before 50 years of age were similar.

Classification of Coronary Disease. The grading of coronary artery blockage in this study was based primarily on the macroscopic description of the arteries. Microscopic descriptions of the arteries were used in some instances to confirm the gross observations. Coronary artery blockage was classified as follows:

Grade of Coronary Blockage Due to Atherosclerosis:

0. Cases without macroscopic evidence of atherosclerosis or thickening and scarring of the vessel wall.

I. Cases showing atherosclerotic changes as indicated by plaques, thickening of the vessel wall and calcification in which narrowing of the vessel lumen ranged from one to 49%.

II. Cases showing atherosclerotic changes which produced narrowing of the vessel lumen from 50 to 89%.

III. Cases with atherosclerotic changes producing narrowing of the vessel lumen from 90 to 99%.

IV. Cases with atherosclerotic lesions which completely obliterated the vessel lumen, 100% blockage.

Grade of Coronary Blockage Due to Clot:

A. Clot absent
B. Clot present.

Coronary Heart Disease. For the purposes of this study the term, coronary heart disease, included any autopsy in which one or more of the following conditions were listed as a finding at death: coronary thrombosis, coronary occlusion, coronary occlusion due to atherosclerosis, myocardial infarction. Also included were autopsies on patients with a clinical diagnosis of angina pectoris and coronary insufficiency. These conditions did not have to be listed as the primary cause of death to be included in the CHD category. If any of the above conditions occurred in a diabetic patient, the record was placed in a special category—CHD with concomitant diabetes mellitus. This group was separated from another group—CHD without concomitant diabetes mellitus. Any patient having CHD who died with cancer or from accidental causes was placed in the appropriate cancer group or accident group.

RESULTS

Has the pathology of CHD among women changed over the years? Are coronary artery clots on the increase among women diagnosed as having CHD? Table 1 shows the number and percentage of coronary clots among CHD patients by age groups for 1935-1949 versus 1950-1959. These findings suggest that there were rela-

TABLE 1

COMPARISON OF CORONARY ARTERY CLOTS AMONG WOMEN WITH CORONARY HEART DISEASE, 1935-1949 VERSUS 1950-1959

Age Group (Years)	*Period of Time*	Coronary Artery Clot PRESENT No.	%	ABSENT No.	%	TOTAL No.	%
40-49	1935-1949	1	(20)	4	(80)	5	(100)
	1950-1959	7	(58)	5	(42)	12	(100)
50-59	1935-1949	7	(54)	6	(46)	13	(100)
	1950-1959	10	(62.5)	6	(37.5)	16	(100)
60-69	1935-1949	9	(39)	14	(61)	23	(100)
	1950-1959	38	(54)	32	(46)	70	(100)
70-79	1935-1949	16	(46)	19	(54)	35	(100)
	1950-1959	35	(47)	40	(53)	75	(100)
80+	1935-1949	5	(56)	4	(44)	9	(100)
	1950-1959	21	(49)	22	(51)	43	(100)
Total	1935-1949	38	(45)	47	(55)	85	(100)
	1950-1959	111	(51)	105	(49)	216	(100)

Results: *Age Group*	*P*
40-49	< 0.20 but > 0.10
50-59	< 0.70 but > 0.50
60-69	< 0.30 but > 0.20
70-79	< 0.95 but > 0.90
80+	< 0.80 but > 0.70

TABLE 2

Prevalence of Various Grades of Coronary Atherosclerotic Blockage Among Women With Coronary Heart Disease, 1935-1949 Versus 1950-1959

Age Group (Years)	*Period of Time*	*Grade Atherosclerotic Blockage* I No.	I %	II No.	II %	III No.	III %	IV No.	IV %	TOTAL No.	TOTAL %
40-49	1935-1949	1	(20)	0	(0)	1	(20)	3	(60)	5	(100)
	1950-1959	0	(0)	3	(25)	5	(42)	4	(33)	12	(100)
50-59	1935-1949	1	(8)	3	(23)	7	(54)	2	(15)	13	(100)
	1950-1959	0	(0)	7	(43.5)	6	(37.5)	3	(19)	16	(100)
60-69	1935-1949	1	(4)	8	(35)	8	(35)	6	(26)	23	(100)
	1950-1959	6	(8.5)	27	(38.5)	26	(37)	11	(16)	70	(100)
70-79	1935-1949	2	(6)	13	(37)	8	(23)	12	(34)	35	(100)
	1950-1959	3	(4)	24	(32)	26	(35)	22	(29)	75	(100)
80+	1935-1949	0	(0)	1	(11)	3	(33)	5	(56)	9	(100)
	1950-1959	2	(4.5)	17	(39.5)	16	(37)	8	(19)	43	(100)
Total	1935-1949	5	(6)	25	(29)	27	(32)	28	(33)	85	(100)
	1950-1959	11	(5)	78	(36)	79	(37)	48	(22)	216	(100)

Results:	*Age Group*	*P*
(When Grades II and III are combined into one group)	40-49	< 0.20 but > 0.10
	50-59	< 0.70 but > 0.50
	60-69	< 0.50 but > 0.30
	70-79	< 0.80 but > 0.70
	80+	< 0.10 but > 0.05

tively more coronary clots among women 40 to 69 years of age in the more recent period. However, only small numbers of CHD patients were available for analysis in the younger age groups. None of these differences were statistically significant.

If coronary artery clots are relatively more frequent today, then perhaps it now requires less severe coronary atherosclerotic blockage to produce CHD. This hypothesis was tested in Table 2. There were too few CHD patients in the 40 to 49 year age group for a meaningful analysis. No statistically significant differences in the severity of coronary atherosclerosis were found for any of the age groups.

How do the coronary arteries of female CHD

TABLE 3

Comparison of Coronary Atherosclerotic Blockage Among Women With Coronary Heart Disease and Accident-Cancer Victims, by Age Groups

Age Group (Years)	*Disease Group*	*Grade Coronary Atherosclerotic Blockage* 0 No.	0 %	I No.	I %	II No.	II %	III No.	III %	IV No.	IV %	TOTAL No.	TOTAL %
40-49	CHD	—	—	1	(6)	3	(18)	6	(35)	7	(41)	17	(100)
	Accident-Cancer	76	(61)	44	(35)	5	(4)	0	(0)	0	(0)	125	(100)
50-59	CHD	—	—	1	(3.5)	10	(34.5)	13	(45)	5	(17)	29	(100)
	Accident-Cancer	63	(50)	51	(40)	11	(8.5)	2	(1.5)	0	(0)	127	(100)
60-69	CHD	—	—	7	(7.5)	35	(38)	34	(36.5)	17	(18)	93	(100)
	Accident-Cancer	39	(26)	87	(58)	15	(10)	7	(5)	1	(1)	149	(100)
70-79	CHD	—	—	5	(4.5)	37	(33.5)	34	(31)	34	(31)	110	(100)
	Accident-Cancer	19	(21)	45	(49)	15	(16.5)	7	(8)	5	(5.5)	91	(100)
80+	CHD	—	—	2	(4)	18	(34.5)	19	(36.5)	13	(25)	52	(100)
	Accident-Cancer	4	(11)	14	(38)	10	(27)	8	(21)	1	(3)	37	(100)
Total	CHD	—	—	16	(6)	103	(34)	106	(35)	76	(25)	301	(100)
	Accident-Cancer	201	(38)	241	(45.5)	56	(10.5)	24	(4.5)	7	(1.5)	529	(100)

Results for total: $X^2 = 495.865$, d.f. $= 4$, $p = < 0.001$

patients differ from the coronary arteries of a control group thought to be reasonably representative of the general population? Accident victims and patients with cancer of nine primary sites, whose coronary artery pathology was similar to that of accident victims, were used for the control group.[6] Table 3 shows that CHD patients had far more advanced coronary atherosclerotic blockage than did the control group. Twenty-five per cent of the CHD patients versus 1.5% of the accident-cancer patients had Grade IV (100%) atherosclerotic blockage. Grade II plus Grade III (50 to 99%) atherosclerotic blockage included 69% of the CHD patients versus 15% of the accident-cancer patients. Every woman with CHD had some coronary atherosclerosis present, whereas 38% of the control group was reported free of macroscopic atherosclerosis. These differences were statistically significant ($P=<0.001$). It appears that a "critical level" of coronary atherosclerotic blockage is almost always necessary for the development of CHD. For example, 94% of all women with CHD had at least 50% or more atherosclerotic blockage, and 60% of them had at least 90% or more coronary atherosclerotic blockage. The few CHD patients (6%) who had less than 50% coronary atherosclerotic blockage may be considered atypical. These data would tend to support the hypothesis that coronary atherosclerosis is a "necessary cause" of CHD in women. Excessive coronary atherosclerotic blockage is the usual finding among these patients. However, complete (100%) atherosclerotic blockage was found in only 25% of the cases.

Report of an epidemiological study based on autopsy findings to test hypotheses about coronary atherosclerosis and clot formation in women with coronary heart disease. While many of the hypotheses were negative, the discussion points out several reported differences in coronary pathology when women with coronary heart disease are compared to men with the same disease. The authors are from the Department of Community Health and Medical Practice, University of Missouri School of Medicine, where Doctor Parrish is Professor and Chairman, Mrs. Carr and Mr. Khan are graduate students and Doctor Silberg is Assistant Professor. This paper was supported in part by the National Heart Institute, U.S.P.H.S., under Grant HE 08158-01.

Coronary artery clots among CHD patients and accident-cancer victims are compared in Table 4. Coronary heart disease patients had a higher prevalence of coronary clots in every age group. For the total, 49.5% of CHD patients versus 3% of accident-cancer victims had coronary clots. These differences were statistically significant ($P=<0.001$). Since every CHD patient had some coronary atherosclerosis and only 49.5% of them had coronary clots, it appears that coronary atherosclerosis is the basic lesion of CHD in women. Coronary clots are a sufficient (contributing) cause of CHD. No coronary clot was

TABLE 4

Prevalence of Coronary Artery Clots Among Women With Coronary Heart Disease and Accident-Cancer Victims by Age Groups

Age Group (Years)	*Disease Group*	*Coronary Artery Clot* PRESENT No.	%	ABSENT No.	%	TOTAL No.	%
40-49	CHD	8	(47)	9	(53)	17	(100)
	Accident-Cancer	0	(0)	125	(100)	125	(100)
50-59	CHD	17	(59)	12	(41)	29	(100)
	Accident-Cancer	1	(1)	126	(99)	127	(100)
60-69	CHD	47	(50.5)	46	(49.5)	93	(100)
	Accident-Cancer	3	(2)	146	(98)	149	(100)
70-79	CHD	51	(46)	59	(54)	110	(100)
	Accident-Cancer	6	(7)	85	(93)	91	(100)
80+	CHD	26	(50)	26	(50)	52	(100)
	Accident-Cancer	6	(16)	31	(84)	37	(100)
Total	CHD	149	(49.5)	152	(50.5)	301	(100)
	Accident-Cancer	16	(3)	513	(97)	529	(100)

Results for total: $X^2 = 260.44$, d.f. = 1, $p = < 0.001$

TABLE 5

GRADES OF CORONARY ARTERY ATHEROSCLEROTIC BLOCKAGE AMONG WOMEN HAVING CORONARY HEART DISEASE WITH AND WITHOUT CONCOMITANT DIABETES MELLITUS

Age Group (Years)	*Diabetes Mellitus*	I		II		III		IV		TOTAL	
		No.	%	No.	%	No.	%	No.	%	No.	%
40-49	Absent	1	(6)	3	(18)	6	(35)	7	(41)	17	(100)
	Present	0	(0)	1	(17)	3	(50)	2	(33)	6	(100)
50-59	Absent	1	(3.5)	10	(34.5)	13	(45)	5	(17)	29	(100)
	Present	1	(4)	4	(17.5)	11	(48)	7	(30.5)	23	(100)
60-69	Absent	7	(7.5)	35	(38)	34	(36.5)	17	(18)	93	(100)
	Present	3	(5)	11	(19)	25	(43)	19	(33)	58	(100)
70-79	Absent	5	(4)	37	(34)	34	(31)	34	(31)	110	(100)
	Present	0	(0)	10	(21)	21	(46)	15	(33)	46	(100)
80+	Absent	2	(4)	18	(34.5)	19	(36.5)	13	(25)	52	(100)
	Present	1	(8)	2	(17)	5	(42)	4	(33)	12	(100)
Total	Absent	16	(6)	103	(34)	106	(35)	76	(25)	301	(100)
	Present	5	(3.5)	28	(19)	65	(45)	47	(32.5)	145	(100)

Grade Atherosclerotic Blockage

Results:	*Age Group*	*P*
When Grades II and III are combined into one group)	40-49	< 0.80 but > 0.70
	50-59	< 0.70 but > 0.50
	60-69	< 0.20 but > 0.10
	70-79	< 0.50 but > 0.30
	80+	< 0.70 but > 0.50

found in any woman in this autopsy population unless she also had coronary atherosclerosis.

The records of CHD patients with hypertension were compared with those of CHD patients without hypertension, by 10-year age groups. Of 189 patients with hypertension, 92 (49%) had coronary artery clots. Of 112 patients without hypertension, 57 (51%) had coronary clots. These differences were not statistically significant. Also, there was no association, either positive or negative, between hypertension and the severity of coronary atherosclerotic blockage among women with CHD. Both hypertensive and nonhypertensive women with CHD had excessive coronary atherosclerotic blockage.

The relationship of body weight at time of death to coronary atherosclerotic blockage among women with CHD was studied next. Of 301 women with CHD, 141 were overweight, 148 had average weights and 12 were underweight. Obviously, there were too few underweight patients to analyze. No association was found between body weight (overweight versus average weight) and coronary atherosclerotic blockage among women with CHD. Also, there was no association between body weight and the prevalence of coronary artery clots in these patients.

Throughout this study women having CHD with concomitant diabetes mellitus were treated separately from women having CHD without concomitant diabetes mellitus. The hypothesis that CHD patients with diabetes mellitus have more severe coronary atherosclerotic blockage than CHD patients without diabetes was tested in Table 5. No statistically significant differences were found.

Using the same line of reasoning, if CHD patients with diabetes mellitus had more severe coronary atherosclerotic blockage, they also might have fewer coronary artery clots than women having CHD without diabetes mellitus (Table 6). This table suggests that women 40 to 49 and 50 to 59 years of age having CHD without diabetes mellitus had more coronary clots than women having CHD with diabetes mellitus. However, there were too few CHD patients with diabetes in the 40 to 49-year age group for a meaningful analysis. None of the differences in these groups were statistically significant.

DISCUSSION

In the present study, epidemiological methods were used to test hypotheses about the relative importance of coronary atherosclerotic blockage and coronary clots among women with CHD. Some of the usual biases found in a retrospective study[7] were minimal in this autopsy population. For example, the method of examining the heart

TABLE 6

PREVALENCE OF CORONARY ARTERY CLOTS AMONG WOMEN HAVING CORONARY HEART DISEASE WITH AND WITHOUT CONCOMITANT DIABETES MELLITUS

Age Group (Years)	*Diabetes Mellitus*	*Coronary Artery Clot* PRESENT No.	%	ABSENT No.	%	TOTAL No.	%
40-49	Absent	8	(47)	9	(53)	17	(100)
	Present	1	(17)	5	(83)	6	(100)
50-59	Absent	17	(59)	12	(41)	29	(100)
	Present	9	(39)	14	(61)	23	(100)
60-69	Absent	47	(50.5)	46	(49.5)	93	(100)
	Present	26	(45)	32	(55)	58	(100)
70-79	Absent	51	(46)	59	(54)	110	(100)
	Present	25	(54)	21	(46)	46	(100)
80+	Absent	26	(50)	26	(50)	52	(100)
	Present	5	(42)	7	(58)	12	(100)
Total	Absent	149	(49.5)	152	(50.5)	301	(100)
	Present	66	(45.5)	79	(54.5)	145	(100)

Results:	*Age Group*	*P*
	40-49	< 0.30 but > 0.20
	50-59	< 0.20 but > 0.10
	60-69	< 0.70 but > 0.50
	70-79	< 0.50 but > 0.30
	80+	< 0.70 but > 0.50

and coronary arteries did not change over the years, the method of recording the results did not change, normal hearts were described as thoroughly as diseased hearts, negative as well as positive findings often were stated and several pathologists reviewed the findings of each autopsy. Incomplete records rarely were found. Thus, differences in the prevalence of coronary atherosclerotic blockage and coronary clots did not seem to result from better reporting in more recent times.

How do the findings in this study of coronary atherosclerosis and clot formation in women with CHD differ from a similar study of males with CHD? The same autopsy population and research methods were used to study CHD among patients of both sexes.[4] There was a suggestion that coronary clots were less prevalent among males and females 40 to 59 years of age in the 1930's and 1940's than in the 1950's. However, these differences were not statistically significant. There was no evidence that the severity of coronary atherosclerotic blockage has increased among women with CHD since 1935. On the other hand, males with CHD were reported as having significantly more severe coronary atherosclerotic blockage from 1935 to 1944 than from 1945 to 1955. These findings suggest that the relative importance of coronary atherosclerotic blockage and coronary clots in the pathology of CHD may be changing, and that these changes are most pronounced among males with CHD.

It is not sufficient to know that patients with CHD have atherosclerosis of their coronary arteries. A high proportion of people 40 or more years of age in the United States have coronary atherosclerosis. The important question is, "How does the prevalence and severity of coronary atherosclerosis differ in CHD patients and a control group?" For example, 100% of women with CHD had coronary atherosclerosis present, whereas 38% of the control group was reported free of macroscopic coronary atherosclerosis. The comparable figures for males were 100% versus 26%.[4] Both men and women with CHD had a higher prevalence of coronary clots than found for accident-cancer patients. For women, 49.5% of CHD patients versus 3% of accident-cancer patients had coronary clots. For men, 53% of CHD patients versus 3% of accident-cancer patients had coronary clots.[4]

There was no difference in the severity of coronary atherosclerotic blockage among hypertensive versus nonhypertensive patients with CHD. This was true for both sexes. There was no association between hypertension and coronary clots for women with CHD. On the other hand, fewer coronary clots developed in hypertensive versus nonhypertensive males with CHD.[4] This was true for every age group. Shock and hypotension following an acute myocardial infarct would tend to reduce coronary arterial blood flow and favor the development of a thrombus. It is difficult to explain why this association was found for males with CHD and not for females with CHD.

No association was found between body weight at time of death and the severity of coronary atherosclerotic blockage among either males or females with CHD. Also, no association was found between body weight and coronary clots for women with CHD. There were too few underweight women with CHD to analyze. However, 52.5% of overweight versus 48% of average weight women with CHD had coronary clots. On the other hand, body weight was associated significantly with coronary clots among males with CHD. The following percentages of men had coronary clots: 62%, if overweight; 48%, if average weight; and 27%, if underweight.[4] Perhaps this results from dietary or metabolic characteristics of overweight men which accelerates their coagulation mechanism. It would be interesting to collect additional data about underweight women with CHD to determine if the reported lack of association between body weight and coronary clots is "apparent" or "real."

How does the pathology of CHD among diabetics differ from that among nondiabetics? There was no difference in the severity of coronary atherosclerotic blockage among women having CHD with and without concomitant diabetes mellitus. However, males having CHD with concomitant diabetes had significantly more severe coronary atherosclerotic blockage than those without diabetes.[4] There was some suggestion that 40 to 59-year-old women having CHD without diabetes had more coronary clots than those with concomitant diabetes. These differences, however, were not statistically significant. On the other hand, only 37% of males having CHD with diabetes versus 53% of males having CHD without diabetes had coronary artery clots.[4] This difference was statistically significant. These findings suggest that the relative importance of coronary atherosclerosis and clot formation among diabetics with CHD differ from those among nondiabetics with CHD. These differences may be related to the biochemical, metabolic and endocrine alterations of diabetics.

Summary

An epidemiological study of coronary heart disease among white women in an autopsy population showed that the basic pathology of the disease has not changed from 1935-1949 to 1950-1959. However, there was a suggestion that women 40 to 69 years of age had more coronary clots in the more recent period of time. The coronary artery pathology of women with CHD was compared with that of a control group of accident plus cancer patients. As expected, the CHD patients had significantly more severe coronary atherosclerotic blockage and more coronary clots. There were no significant differences in the severity of coronary atherosclerotic blockage and coronary clots when CHD patients with and without hypertension were compared. Also, there was no significant relationship between body weight at time of death and coronary atherosclerotic blockage or coronary clots among women with CHD. There were no statistically significant differences in the severity of coronary atherosclerotic blockage or coronary clots among women having CHD with and without concomitant diabetes mellitus. However, there was a suggestion that 40 to 59-year-old women having CHD without diabetes had more coronary clots than women having CHD with diabetes. Important differences in the relative importance of coronary atherosclerotic blockage and coronary clots between males and females with CHD were discussed.

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Family Planning: Ovulation Suppression and Rhythm

Attempts to deal with the fecundity of the human being are as ancient as history itself. The recognition of the cyclic nature of fertility in the female is itself ancient, also. In *Genesis 18,** Abraham and Sarah are extending hospitality to two strangers, one of whom proves to be Yahweh. This guest states, "I shall visit you again next year without fail, and your wife will then have a son." The text goes on to say, "Now Abraham and Sarah were old, well on in years, and Sarah had ceased to have her monthly periods. So Sarah laughed to herself thinking, 'Now I am past the age of childbearing, my husband is an old man, is pleasure to come my way again?' "

St. Augustine castigates the Manicheans of his day as doing grave wrong by utilizing their imperfect conception of a "safe time," because of his idea that sexual intercourse without the possibility of procreation was very wrong. He felt the only excuse for this relationship between man and woman was reproduction of the species.

In the book "The Infertile Period," a classic in reproduction physiology which was published in 1962, Hartman states that investigators in Germany and France discovered in the 1840's that female dogs, which have a blood-stained vaginal discharge when they are in heat, ovulate toward the end of this period. Since women also bleed periodically, he points out, it was natural to assume, in the absence of data to the contrary, that they must also ovulate at the time of bleeding.

The modern basis for our more correct understanding of the limited fertility of the female was reasoned independently by two observers separated by a vast number of miles across the earth. Ogino in Japan and Knaus in Germany in the 1930's determined the time of ovulation to be within a certain time period which could be sometimes ascertained by thorough study of the menstrual pattern. Since their scientific breakthrough, little additional significant information has been forthcoming, although many efforts to improve the pinpointing of this phenomenon have been attempted.

The crux of successful practice of periodic continence is the precise knowledge of when the woman ovulates. John Rock admonishes, because so many failed to consider, that "the time of ovulation is no way affected, much less determined, by a preceding menstruation, which of itself has nothing to do with ovulation." Unfortunately, we cannot predict this transient episode of monumental import with any degree of accuracy. For practical purposes, our recognition of the event, even after it has taken place, is proved scientifically only by the occurrence of a pregnancy. Ovulation has been observed in the human, but this is, of course, impractical at the present time to observe it with each cycle.

We are dependent today on the recognition of many probable signs of ovulation. These would include mittelschmerz, spinnbarkeit, determination of pregnanediol, serial vaginal smears and basal body temperatures. Some of these are better than others, and some have received wide acceptance. All of them add up to only a degree of reasonableness which falls short of certainty. Because of this, rhythm or periodic continence remains an unpredictable and unreliable and altogether vexatious answer to the struggling couple confronted with the need for fertility control. Often the very anxiety state which results from the precipitating factor, plus the realization of previous failures, make the hypothalmic control of ovulation even more uncertain.

Despite the limitation of family planning by traditional Catholic teachings to this device, despite the fact that Pius XII exhorted scientists to make "this licit method" more reliable to those who need it, despite the fact that there are five Catholic medical schools in this country, not one of these has published the results of any research which throw light on this tormenting problem. There has been a paucity of Catholic publication in scientific journals to really evaluate periodic continence in its reliability for couples restricted to its use.

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* The Jerusalem Bible, First Edition.

Reports by others found in the literature indicate that rhythm is approximately comparable to the effectiveness of the various mechanical methods. All are familiar with the lack of protection offered by these means on occasion. And yet, there are many popular articles by enthusiastic members of the laity, professional medics and clerics which intimate that rhythm is a successful alternative to means which are considered of dubious morality by Catholics at present. The experience of most couples practicing periodic abstinence is that it is very difficult, not at all consistent with their natural rhythms for expressing mutual love and, worst of all, unreliable.

Prior to the middle of this century, regulation of conception was feared to be a form of hedonism. The main factor causing the Church to review her concept of conjugal morality seems to be the hard fact of population density. There also has been a recognition in medical disciplines that pregnancy is not exactly a normal state of the female. She is known to at least experience an altered physiological response during this time. Certain disease processes in the female are recognized by conscientious practitioners as contraindications to further pregnancies. The dependence on such an uncertain method as capricious as rhythm is inconsistent with reason. The alternative of total abstinence as the only means of conception control is without compassion. Heroic practices are always to be admired. Are they to be demanded?

It is recognized that *all* couples practice periodic continence from sexual relations from time to time, even those whose moral consciences permit absolute contraception. In times of fatigue, illness or absence from the partner, these episodes of abstinence are accepted without question. Periodic continence, too, can be practiced by many, particularly those willing to make sacrifices for their own and mutual betterment. To be surprised by a pregnancy after resolute periodic continence, however, is unacceptable to most Catholic couples. It is particularly cruel on the part of many medics and clerics to intimate that this pregnancy would not have occurred if this couple had only followed the rules.

Many couples staunchly and honestly maintain that rhythm works for them, and they fail to understand their friends who speak of failures. While these couples are successfully enjoying their conjugal relationship, it is probably due to their sexuality, mutually agreed upon, with relations two or three time a month. Such couples probably never would need rhythm to limit their family size: this degree of sexual exposure is known to result in low fecundity. Not all, or even most, couples can restrict their mutual giving of one another to this degree of frequency. Most doctors are well aware of some family situations where this exposure rate is forced by one partner or another. The Church always has opposed such restrictions unless by mutual consent.

Periodic continence will be successful in postponing, for a greater or lesser period of time, a pregnancy in couples who are motivated to very carefully studying the menstrual cycle in all of the parameters known today and who are willing to make many sacrifices and restrict their natural expression of conjugal love. Periodic continence will not offer any degree of certainty to those women who have a more urgent or definite need for having no more pregnancies.

If periodic continence were more reliable, there seems to be little doubt that it would be one of the most widely used methods in the world. Many people would be able and willing to refrain from relations for a reasonable period of time. Considering the vagaries of human ovulation, as we know it today, the hopes for such reliability are not foreseeable in the near future.

Practically all of the mechanical, chemical and medicinal methods of conception control, albeit more reliable, have their disadvantages in esthetics, anxiety over side effects, complications and consequences.

Many considerations are used in judging available methods of conception control. These will include, among others, patient acceptance, ease of employment, moral connotations, degree of protection inherent in the method, etc. If this latter criterion is the one of greatest concern, then oral ovulatory suppression is the first choice. This is not to say that the anovulants represent a panacea for all the world's problems with over population. Fertility control, per se, will not automatically feed or clothe or adequately house the great masses of underprivileged about the world. The use of anovulants still requires a degree of mental concentration which is difficult to follow by many of these unfortunates.

However, when the consequences of the anovulants are not feared by the patient or her husband and when she is reasonably motivated to follow relatively simple instructions, she is rewarded with practically 100% effectiveness. The evolution of newer pills has greatly reduced the incidence of side effects. Still many patients and/or their husbands remain concerned by all the articles appearing in communications media which speak of the uncertainty of consequences and side effects. This anxiety is strange in view of the widespread usage of these agents. Such acceptable medicaments as aspirin, penicillin and others are widely used without reservations, despite the knowledge they indeed have caused mortality as well as morbidity.

Most side effects of the anovulants are well known and are usually accepted by the patients: few have been found to be serious. In the women in whom pregnancy itself would cause hormonologic damage, the pill is very apt to mimic this problem, usually though to a less serious degree. Diabetes is said to be such an example and should be watched for. It is, of course, easier to stop the pill than the pregnancy it is given to forestall. The consequences of the pregnancy must in each instance be weighed against the consequences of the pill.

The vexatious problem of thrombophlebitis has not yet been solved to the satisfaction of all. It would seem, however, that more of these problems with more serious complications would result from uncontrolled fertility.

The literature accompanying the medications lists a number of contraindications for the use of the pill. These include mental depression, incipient diabetes, liver impairments, pruritis and/or icterus, migraine and thrombophlebitis.

The mode of action of the anovulants in itself has been the center of considerable discussion. One familiar brand openly advertises it may act in any one or all of three ways: Anovulation, Mucous Plug, Unfavorable Endometrial Lining.

While such advertising may motivate those looking for greatest effectiveness, it demonstrates the utter lack of concern for moral problems as if there are so few who would care, it doesn't matter anyway.

A wide choice of oral contraceptives confronts the practitioner today. The original pill with 10 mgms of Norethynodrel and 0.15 mgms Mestranol is still available, but it is now replaced by a wide variety of newer synthetics with the constant attempt to reduce the dosage and, at the same time, maintain the very high degree of effectiveness. Reduction of dosages has been aimed primarily at relieving annoying side effects, which, after all, is related to patient acceptance. It also has allayed some of the anxiety concerning the long range effects of hormonal interference.

Most of the wide variety of products available are combinations of both estrogens and progestins in varying strengths. Because of the somewhat bizarre endometrial pattern observed as a result of stimulation from these combinations, many physicians felt that a sequential type of therapy would be more physiologic and, therefore, safer for the patient. In order to assume these virtues, one would have to show that the bizarre endometrial pattern was in some way harmful, and this has not yet been done.

A discussion of the medical and religious problems that accompany the use of anovulatory agents in conception control. This paper was presented originally at the 1967 MSMA Annual Session. Doctor Krebs is Associate Professor of Clinical Obstetrics and Gynecology at the St. Louis University School of Medicine.

Whether one employs this or that combination or a sequential product is related more to personal whim than solid scientific grounds. There are, however, some points which are believed to be factors in choosing an oral anovulatory suppressant.

The sequential products are thought to be favored in those who have a weight problem. Some also feel there is less trouble with monilial vaginitis in those on sequential pills, but, at the same time, there also is more mucorrhea.

Although the published pregnancy rates of those who take the pills according to directions are about the same with both combined and sequential types, it is generally recognized that the faithful adherence to the daily pill without omission is more critical with the sequentials.

The combined products seem to have an advantage in those women who suffer from hypermenorrhea. These heavy periods are reduced considerably after withdrawal from the combined product.

Family planning now is established as an aspect of medical practice that has assumed its place of importance because of the needs of patients. Catholics are likewise interested in limiting their fertility potential. They hope to do this in accordance with moral principles. The preoccupation with the fear of hedonism that prevented theologians from understanding the true conjugal relationship is now fortunately on the wane. The laity must become more articulate in expressing what the marital relationship means. Together with professionals, the laity must help to form a conceptualization of what the vocation of marriage really signifies.

(Continued on page 855)

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Delayed Wound Infection

Case Reports

Four patients were treated for delayed wound infections at the March Air Force Base Hospital, Riverside, California, during a period of two years. These infections became apparent in surgical scars more than six months after operation.

The published data about wound infections deal almost exclusively with the problem of immediate infections. Delayed wound infections are rarely discussed.[1, 2] Barnes *et al* state that less than 3% of infections arising in clean wounds are encountered more than three months after operation.[2] They do not deal further with the problem.

Case Reports

During the period from Feb. 1, 1964 to Jan. 31, 1966, 1,232 operations were performed in the general surgical service at the March Air Force Base Hospital. Nineteen early postoperative wound infections and four infections arising more than six months postoperatively were encountered.

Case # 1. An 18-month-old child had a colostomy closure on April 5, 1963, subsequent to repair of an imperforated anus. She was treated for five days postoperatively with 300,000 units of Procaine Penicillin and a half gram of streptomycin twice daily. No immediate infection resulted. The patient was admitted to the March Air Force Base Hospital on Oct. 30, 1964, because of an abscess beneath the abdominal scar. Cultures of the pus at the time of drainage showed pseudomonas aeruginosa. Subsequent healing was uneventful.

During a two-year period, four cases of delayed wound infection were treated in an Air Force Hospital. All appeared six months or more after their initial surgical procedures. The authors present here detailed case reports and etiologic considerations.* Both authors were stationed at March Air Force Base, California, at the time this paper was prepared. Maj. Haff is now with the Air Force Institute of Technology (C.I.D.), Wright Patterson Air Force Base, with duty in the Department of Surgery at Barnes Hospital, St. Louis.

Case # 2. This patient had a subtotal gastrectomy on June 20, 1955, and developed a wound infection caused by coliform organism five days later. The wound was treated by drainage and antibiotics and, subsequently, healed. Three years later, he was treated at another hospital for a delayed wound infection. He was admitted to the March Air Force Base Hospital on Jan. 25, 1965, with an obvious abscess of the abdominal wound. Incision and drainage were carried out. Culture showed aerobacter klebsiella.

Case # 3. In October, 1963, a 17-year-old girl underwent an appendectomy for non-perforative appendicitis. She did well postoperatively, had no wound complications and was never treated with antibiotics. On Jan. 20, 1965, she was readmitted with an abscess of one pole of her wound. Incision and drainage on January 21 did not disclose any foreign material. Cultures failed to show bacteria.

Case # 4. A 38-year-old woman underwent an appendectomy for non-perforative disease in December, 1962. A separate stab wound was used for a peritoneal drain. No record of any antibiotic employment was found during that admission. Three years later, on Jan. 31, 1966, an abscess developed at the old drain site, incident to a gram negative anaerobic organism. She did well after incision and drainage, without use of antibiotics.

Discussion

Delayed wound infections are associated with significant morbidity. That they are not rare is suggested by the fact that four of 23 wound infections occurring among 1,200 postoperative patients were of the delayed type.

A search for underlying causes yield several items of interest. First, one of these patients developed her infection after having been given antibiotics prophylactically at the time of operation. A second case had an abscess treated in part by antibiotics. Both delayed abscesses yielded coliform organisms. Barnes *et al* noted that during the past 15 years, while the incidence of wound infections had not changed, the offending organisms have changed from Streptococcus and Pneumococcus to Staphalococcus and, finally, to coliform organisms. He attributes this, in part, to the use of prophylactic antibiotics. Bernard and Cole[3] note the same fact. They further state that, while a decrease in the mortality of gastrointestinal hepato-biliary surgery has attended the use of prophylactic antibiotics, there has been no change in the incidence of wound infection. Though the overall nature of the cases involved may well have justified their use, nonetheless, prophylactic antibiotics may have contributed to these delayed infections. The effect of prophylactic antibiotics in retarding, rather than eliminating, the growth of resistant organisms must be expected to produce a percentage of delayed wound infections in cases thus treated.

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* The views expressed herein are those of the authors and do not necessarily reflect the views of the Strategic Air Command, the United States Air Force or the Department of Defense.

Etiologically more obscure is the delayed abscess appearing in apparently clean wounds of patients never given antibiotics. It is difficult to draw conclusions as to etiology, in the absence of known precedent infection, foreign material in the abscess, or prophylactic antibiotic utilization. Infection at the time of surgery with remarkably indolent organism is a possible explanation. Similarly, a secondary infection of a susceptible area, such as a wound scar, by organisms released from a distant site of trauma or infection is possible. No such incident of trauma or infection is noted to precede the infection in either of the cases in question.

The third point to be made concerns the successful treatment of abscess by incision and drainage alone. Since antibiotics may contribute to delayed infections, the addition of them to incision and drainage of simple wound abscesses seems contraindicated.

SUMMARY

Four cases of delayed wound infection are presented, two of which developed after the administration of antibiotics.

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Family Planning (Cont'd)

The papal commission formed by good Pope John and continued and enlarged by the present pontiff is testimony of the desire of the magisterium to review attitudes held for centuries, but based on biology that is poorly understood.

If Catholics are to be limited to the practice of periodic continence as we now know it or can expect it to work in the foreseeable future, little control of fertility can be expected. The anovulant pill, despite a great deal of debate regarding side effects and potential dangers of prolonged usage, has enjoyed general acceptance by patients and doctors alike.

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Distribution of Health Services in Missouri: I. Doctors of Medicine and Osteopathy

This is the first of three reports on the distribution of health services in Missouri. The first deals with doctors of medicine and osteopathy, the second with trends in the distribution of physician services and the third with the distribution of medical service centers.

Data suggest that distributions of Missouri health services is generally in accord with population densities. Even though there are some lags and maldistribution of physician services, Missouri's doctor/population ratio is favorable when compared to the United States as a whole. The ratio is particularly favorable when compared to other North Central States. All Missouri counties have at least one practicing M.D. or D.O. However, M.D.'s in private practice generally follow the population distribution of the state and are predominantly located in the metropolitan areas.

Distribution of M.D.'s

The 1965 American Medical Association Directory[1] reports 5,329 M.D.'s in Missouri. Of these, 3,501 are in private practice; 1,587 are not in private practice but are active in the medical field. These comprise physicians employed in hospitals or other health facilities, in administrative work related to the medical field, in medical school teaching and in public health work.

The first report of a series on the distribution of health services in Missouri in regard to doctors of medicine and osteopathy, trends in the distribution of physician services and the distribution of medical service centers. The authors discuss here the distribution of doctors of medicine by county and type of practice and compare this data with that pertaining to osteopathic physicians. Doctors Baker and Bishop are Associate Professors in the Department of Community Health and Medical Practice, University of Missouri School of Medicine. Doctor Baker also heads the preceptorship program for medical students. Doctor Hobbs is Associate Chairman of the Department of Rural Sociology, University of Missouri College of Agriculture. Doctor Hassinger holds a double appointment as Associate Professor in both departments. This study is supported in part by U.S.P.H.S. Grant CH-00252-01.

The distribution of M.D.'s is of concern to some localities in the state. Nine counties are without an active doctor of medicine. There is a disproportionate location of M.D.'s in urban areas of the state. More than three-fourths (76.1%) of the total number of doctors of medicine are located in four metropolitan counties and one city: Buchanan County, Greene County, Jackson County, St. Louis County and St. Louis City. (Although St. Louis City is not a county, it is customary to treat it as one in tabulations of this kind.) These areas, however, include only 53% of the state's total population.

The number of M.D.'s by county and type of practice is detailed in Table 1. Considering only those in private practice, there are 78.6 M.D.'s per 100,000 population. This compares to 91 per 100,000 population for the nation in 1963.[2] As indicated in Table 1, twelve counties are above the state average in number of M.D.'s per 100,000 population. With the exception of Iron County, these are the 12 most populous counties of the state.

The Missouri data tend to support the reported trend of specialization in medical practice. Of 3,501 Missouri M.D.'s in private practice in 1965, two out of three report themselves as full-time specialists and 36.4% of those in private practice were board certified. Specialists are

TABLE 1

Number of M.D.'s by County, 1965

		Private Practice								
			NO./	GENERAL PRACTICE		SPECIALIST		*Non-Private*		
County	*Total*	TOTAL	100,000 POP.	No.	%	No.	%	*Practice*	*Retired*	*Other*
Missouri Total	5329	3501	78.6	1189	34.0	2312	66.0	1587	204	37
Adair	9	8	40.6	6	75.0	2	25.0	1		
Andrew	5	4	38.1	4	100.0				1	
Atchison	4	4	48.8	4	100.0					
Audrain	20	19	73.2	12	63.2	7	36.8		1	
Barry	8	7	40.6	6	85.7	1	14.3		1	
Barton	6	6	59.8	6	100.0					
Bates	9	9	61.3	8	88.9	1	11.1			
Benton	3	2	24.3	2	100.0			1		
Bollinger	1	1	12.2	1	100.0					
Boone	251	57	98.8	9	15.8	48	84.2	187	4	3
Buchanan	95	78	90.9	24	30.8	54	69.2	13	4	
Butler	38	36	112.3	20	55.5	16	44.5	1	1	
Caldwell	3	3	37.3	3	100.0					
Callaway	23	9	38.6	8	88.9	1	11.1	13	1	
Camden	5	5	53.7	5	100.0					
Cape Girardeau	57	54	128.7	21	38.9	33	61.1	2	1	
Carroll	7	7	55.2	7	100.0					
Carter	—	—	—	—						
Cass	7	6	16.8	6	100.0			1		
Cedar	3	3	35.6	3	100.0					
Christian	1	1	8.4	1	100.0					
Christian	1	1	8.4	1	100.0					
Clark	1	1	12.0	1	100.0					
Clay	48	43	36.0	27	62.8	16	37.2	1	4	
Clinton	6	6	54.0	6	100.0					
Cole	47	35	83.6	12	34.3	23	65.7	11	1	
Cooper	12	11	76.1	5	45.5					
Crawford	4	4	31.7	3	75.0	6	54.5		1	
Dade	4	4	54.5	4	100.0	1	25.0			
Dallas	3	1	11.8	1	100.0					
Daviess	3	3	35.4	3	100.0			2		
Dekalb	1	1	15.1	1	100.0					
Dent	6	4	40.9	2	50.0	2	50.0	1	1	
Douglas	2	2	23.9	2	100.0					
Dunklin	21	18	50.8	14	77.8	4	22.2		2	1
Franklin	25	25	52.5	18	72.0	7	28.0			
Gasconade	4	4	34.3	4	100.0					
Gentry	4	4	51.6	4	100.0					
Greene	182	163	123.2	27	16.6	136	83.4	8	10	1
Grundy	8	7	62.2	6	85.7	1	14.3			1
Harrison	6	5	48.9	5	100.0				1	
Henry	13	9	49.4	8	88.9	1	11.1		3	1
Hickory	—	—	—	—						
Holt	2	2	29.2	2	100.0					
Howard	9	8	78.5	7	87.5	1	12.5		1	
Howell	12	11	52.6	11	100.0				1	
Iron	7	6	83.3	4	66.7	2	33.3		1	
Jackson	1017	756	118.4	160	21.2	596	78.8	219	33	9
Jasper	63	61	80.6	21	34.4	40	65.6	1	1	
Jefferson	16	13	15.1	7	53.8	6	46.2	2	1	
Johnson	14	12	36.2	10	83.3	2	16.7		2	

TABLE 1 *(Continued)*

Number of M.D.'s by County, 1965

		Private Practice								
County	*Total*	TOTAL	NO./ 100,000 POP.	GENERAL PRACTICE No.	GENERAL PRACTICE %	SPECIALIST NO.	SPECIALIST %	*Non-Private Practice*	*Retired*	*Other*
Knox	2	2	33.5	2	100.0					
Laclede	8	7	38.3	7	100.0				1	
Lafayette	16	16	65.8	15	93.7	1	6.3			
Lawrence	22	9	40.1	8	88.9	1	11.1	11	1	1
Lewis	4	2	18.5	2	100.0				2	
Lincoln	4	4	26.7	3	75.0	1	25.0			
Linn	11	9	59.0	8	88.9	1	11.1		1	1
Livingston	9	7	45.9	6	85.7	1	14.3		2	
McDonald	3	1	9.4	1	100.0				1	1
Macon	7	5	32.9	4	80.0	1	20.0		2	
Madison	6	4	47.1	4	100.0			1	1	
Maries	—	—	—	—						
Marion	29	26	91.9	11	42.3	15	57.7	1	2	
Mercer	1	1	20.0	1	100.0					
Miller	2	2	15.0	2	100.0					
Mississippi	8	7	36.4	6	85.7	1	14.3			1
Moniteau	5	5	50.0	5	100.0					
Monroe	2	2	19.7	2	100.0					
Montgomery	3	3	27.6	3	100.0					
Morgan	6	5	56.6	4	80.0	1	20.0		1	
New Madrid	9	9	32.5	8	88.9	1	11.1			
Newton	16	14	47.0	11	78.6	3	21.4		2	
Nodaway	6	6	29.0	6	100.0					
Oregon	1	1	11.4	1	100.0					
Osage	1	—	—	—					1	
Ozark	2	1	17.3	1	100.0				1	
Pemiscot	17	16	46.4	14	87.5	2	12.5		1	
Perry	7	7	50.4	6	85.7	1	14.3			
Pettis	30	26	72.9	17	65.4	9	34.6	2	2	
Phelps	11	11	41.8	9	81.8	2	18.2			
Pike	12	11	68.3	9	81.8	2	18.2		1	
Platte	5	5	17.7	5	100.0					
Polk	7	6	48.4	6	100.0				1	
Pulaski	5	4	8.7	3	75.0	1	25.0	1		
Putnam	—	—	—	—						
Ralls	—	—	—	—						
Randolph	13	11	52.7	4	36.4	7	63.6		2	
Ray	5	5	31.8	4	80.0	1	20.0			
Reynolds	—	—	—	—						
Ripley	3	2	24.9	2	100.0				1	
St. Charles	34	33	46.9	10	30.3	23	69.7	1		
St. Clair	5	5	67.2	3	60.0	2	40.0			
St. Francois	24	16	45.4	12	75.0	4	25.0	8		
St. Louis	403	295	144.5	70	23.7	225	76.3	85	18	5
Ste. Genevieve	3	3	25.1	3	100.0					
Saline	20	14	59.0	13	92.9	1	7.1	4	2	
Schuyler	—	—	—	—						
Scotland	—	—	—	—						
Scott	24	23	72.7	12	52.2	11	47.8	1		
Shannon	2	1	15.4	1	100.0				1	
Shelby	3	2	23.7	2	100.0				1	
Stoddard	4	3	11.1	3	100.0				1	
Stone	5	4	53.5	4	100.0					1
Sullivan	1	1	13.1	1	100.0					

TABLE 1 *(Continued)*

Number of M.D.'s by County, 1965

		Private Practice								
County	*Total*	TOTAL	NO./ 100,000 POP.	GENERAL PRACTICE No.	GENERAL PRACTICE %	SPECIALIST NO.	SPECIALIST %	*Non-Private Practice*	*Retired*	*Other*
Taney	8	7	70.0	6	85.7	1	14.3		1	
Texas	5	5	30.1	5	100.0					
Vernon	16	7	36.7	5	71.4	2	28.6	7	2	
Warren	4	3	33.2	3	100.0				1	
Washington	2	2	14.7	2	100.0					
Wayne	2	2	26.0	2	100.0					
Webster	5	4	31.2	4	100.0				1	
Worth	2	1	29.3	1	100.0				1	
Wright	2	2	15.4	2	100.0					
St. Louis City	2359	1275	186.4	291	22.8	984	77.2	1001	72	11

highly concentrated in the larger population centers and in the environs of the University of Missouri School of Medicine. Of all specialists in the state, 92% are located in the seven most populated counties plus St. Louis City.

Fig. 1 indicates by county the number and percentage of M.D.'s in private practice who are board certified. Since these are percentages of those in private practice, medical school faculties are not reflected in these figures.

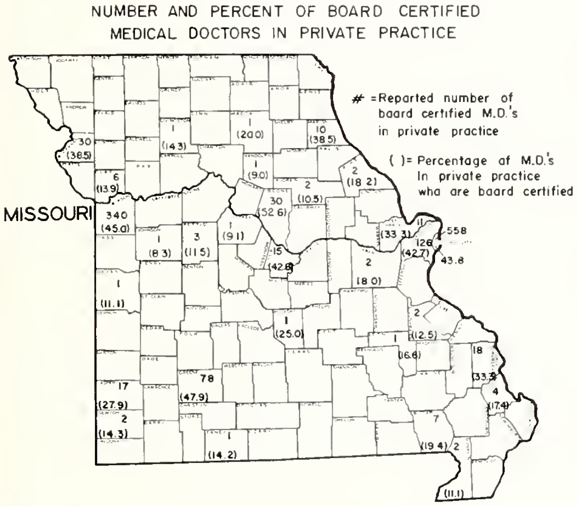

NUMBER AND PERCENT OF BOARD CERTIFIED MEDICAL DOCTORS IN PRIVATE PRACTICE
MISSOURI
# =Reported number of board certified M.D.'s in private practice
( )= Percentage of M.D.'s In private practice who are board certified
30 (38.5)
6 (13.9)
340 (45.0)
1 (14.3)
1 (20.0)
10 (38.5)
1 (9.0)
2 (18.2)
2 (10.5)
30 (52.6)
1 (9.1)
1 (8.3)
3 (11.5)
15 (42.8)
11 (33.3)
558
126 (42.7)
43.8
2 (18.0)
1 (11.1)
2 (12.5)
1 (25.0)
1 (16.6)
18 (33.3)
4 (17.4)
17 (27.9)
2 (14.3)
78 (47.9)
1 (14.2)
7 (19.4)
2
(11.1)

Fig. 1 Number and Percent of Board Certified Medical Doctors in Private Practice.

Distribution of D.O.'s Compared to M.D.'s

Osteopathic physicians represent a sizeable component of professional health personnel in Missouri. The D.O. population ratio is higher in Missouri than in any other state in the nation.[2] Missouri is the location of two of the five schools of osteopathy in the United States and has a favorable legal and social climate for its practice. The 1966 Directory of Osteopathic Physicians[3] reports 1,120 D.O.'s in Missouri. This is about one D.O. for every five M.D.'s. Compared to M.D.'s, a higher proportion of doctors of osteopathy is in general practice. There are 852 D.O.'s in private practice or about one D.O. for every four M.D.'s. The number of doctors of osteophathy by county and type of practice is detailed in Table 2.

The distribution of D.O.'s is different from that of M.D.'s. There is a concentration in the northeast part of the state centering on Adair County. This is the location of Kirksville, the site

TABLE 2

Number of D.O.'s by County, 1966

		Private Practice								
County	*Total*	TOTAL	NO./ 100,000 POP.	GENERAL PRACTICE No.	GENERAL PRACTICE %	SPECIALIST No.	SPECIALIST %	*Non-Private Practice*	*Retired*	*Other*
Missouri Total	1119	851	19.1	586	68.8	265	31.2	143	64	61
Adair	91	21	106.6	9	42.9	12	57.1	59	8	3
Andrew	2	2	19.0	1	50.0	1	50.0			
Atchison	2	1	12.2	1	100.0					1

TABLE 2 *(Continued)*
NUMBER OF D.O.'S BY COUNTY, 1966

County	*Total*	*Private Practice* TOTAL	NO./ 100,000 POP.	GENERAL PRACTICE No.	%	SPECIALIST No.	%	*Non-Private Practice*	*Retired*	*Other*
Audrain	9	9	34.6	5	55.6	4	44.4			
Barry	10	8	46.4	8	100.0				1	1
Barton	3	3	29.9	3	100.0					
Bates	6	6	40.8	5	83.3	1	16.7			
Benton	5	4	48.7	4	100.0					1
Bollinger	2	1	12.2	1	100.0				1	
Boone	7	6	10.4	5	83.3	1	16.7		1	
Buchanan	17	14	16.3	8	57.1	6	42.9		2	1
Butler	4	4	12.5	4	100.0					
Caldwell	4	3	37.3	3	100.0					1
Callaway	10	3	12.9	2	66.7	1	33.3	3	3	1
Camden	4	4	43.0	4	100.0					
Cape Girardeau	9	8	19.1	3	37.5	5	62.5		1	
Carroll	6	4	31.6	3	75.0	1	25.0		1	1
Carter	1	1	28.1	1	100.0					
Cass	9	6	16.8	6	100.0				2	1
Cedar	4	4	47.5	3	75.0	1	25.0			
Chariton	6	6	52.4	5	83.3	1	16.7			
Christian	4	4	33.7	4	100.0					
Clark	5	3	35.8	2	66.7	1	33.3			2
Clay	23	17	14.2	13	76.5	4	23.5	4	1	1
Clinton	8	8	71.9	5	62.5	3	37.5			
Cole	24	14	33.4	4	28.6	10	71.4	5	2	3
Cooper	4	4	27.7	3	75.0	1	25.0			
Crawford	2	2	15.8	1	50.0	1	50.0			
Dade	1	1	14.9	1	100.0					
Dallas	3	3	35.3	2	66.7	1	33.3			
Daviess	5	5	59.0	5	100.0					
Dekalb	1	1	15.1	1	100.0					
Dent	—	—	—	—						
Douglas	1	1	11.9	1	100.0					
Dunklin	2	2	5.6	2	100.0					
Franklin	4	3	6.3	2	66.7	1	33.3			1
Gasconade	7	5	42.8	4	80.0	1	20.0		2	
Gentry	4	4	51.6	2	50.0	2	50.0			
Greene	21	16	12.1	11	68.8	5	31.2	1	4	
Grundy	1	1	8.9	1	100.0					
Harrison	8	5	48.9	3	60.0	2	40.0	1	2	
Henry	12	7	38.4	3	42.9	4	57.1	3	1	1
Hickory	2	2	49.9	2	100.0					
Holt	3	3	43.8	3	100.0					
Howard	2	1	9.8	1	100.0				1	
Howell	4	4	19.1	3	75.0	1	25.0			
Iron	—	—	—	—						
Jackson	267	190	29.8	102	53.7	88	46.3	45	14	18
Jasper	34	32	42.3	19	59.4	13	40.6	1		1
Jefferson	8	6	7.0	4	66.7	2	33.3			2
Johnson	2	2	6.0	1	50.0	1	50.0			
Knox	7	6	100.6	6	100.0					1
Laclede	3	2	10.9	2	100.0					1
Lafayette	7	6	24.7	6	100.0				1	
Lawrence	6	5	22.3	3	60.0	2	40.0		1	
Lewis	7	5	46.2	5	100.0				1	1
Lincoln	8	7	46.8	4	57.1	3	42.9		1	
Linn	12	10	65.6	9	90.0	1	10.0		1	1
Livingston	6	6	40.3	4	66.7	2	33.3			

TABLE 2 *(Continued)*
Number of D.O.'s by County, 1966

		Private Practice								
			no./ 100,000	general practice		specialist		*Non-Private*		
County	*Total*	total	pop.	No.	%	No.	%	*Practice*	*Retired*	*Other*
McDonald	5	5	47.3	5	100.0					
Macon	16	11	72.3	8	72.7	3	27.3	2	2	1
Madison	2	2	23.6	2	100.0					
Maries	2	2	29.0	2	100.0					
Marion	4	3	10.6	2	66.7	1	33.3			1
Mercer	4	4	80.0	4	100.0					
Miller	6	6	45.0	5	83.3	1	16.7			
Mississippi	5	5	26.0	5	100.0					
Moniteau	3	3	30.0	3	100.0					
Monroe	5	5	49.3	5	100.0					
Montgomery	5	5	46.1	5	100.0					
Morgan	2	2	22.6	2	100.0					
New Madrid	1	1	3.6	1	100.0					
Newton	11	7	23.5	5	71.4	2	28.6	1		3
Nodaway	4	3	14.5	2	66.7	1	33.3		1	
Oregon	3	3	34.3	3	100.0					
Osage	2	2	19.3	2	100.0					
Ozark	3	2	34.7	2	100.0				1	
Pemiscot	2	2	5.8	2	100.0					
Perry	2	2	14.4	2	100.0					
Pettis	10	9	25.2	6	66.7	3	33.3			1
Phelps	2	2	7.6	2	100.0					
Pike	9	9	55.9	8	88.9	1	11.1			
Platte	2	1	3.5	1	100.0			1		
Polk	3	3	24.2	3	100.0					
Pulaski	5	5	10.9	4	80.0	1	20.0			
Putnam	5	5	82.7	4	80.0	1	20.0			
Ralls	2	2	26.5	2	100.0					
Randolph	11	9	43.1	5	55.6	4	44.4	1	1	
Ray	2	2	12.7	2	100.0					
Reynolds	1	1	22.5	1	100.0					
Ripley	2	2	24.9	2	100.0					
St. Charles	9	9	12.8	8	88.9	1	11.1			
St. Clair	1	1	13.4	1	100.0					
St. Francois	15	13	36.9	9	69.2	4	30.8		1	1
St. Louis	45	43	21.1	28	65.1	15	34.9		1	1
Ste. Genevieve	2	2	16.7	2	100.0					
Saline	3	3	12.6	3	100.0					
Schuyler	3	3	65.2	3	100.0					
Scotland	6	5	84.2	4	80.0	1	20.0		1	
Scott	7	7	22.1	6	85.7	1	14.3			
Shannon	1	1	15.4	1	100.0					
Shelby	8	7	82.8	5	71.4	2	28.6			1
Stoddard	9	9	33.3	9	100.0					
Stone	3	2	26.7	1	50.0	1	50.0		1	
Sullivan	4	4	52.5	3	75.0	1	25.0			
Taney	2	2	20.0	2	100.0					
Texas	2	2	12.0	2	100.0					
Vernon	3	2	10.5	2	100.0			1		
Warren	3	3	33.2	3	100.0					
Washington	2	2	14.7	2	100.0					
Wayne	3	2	26.0	2	100.0					1
Webster	4	3	23.4	2	66.7	1	33.3			1
Worth	2	1	29.3	1	100.0		100.0		1	
Wright	7	7	54.0	6	85.7	1	14.3			
St. Louis City	105	82	12.0	46	56.1	36	43.9	15	2	6

TABLE 3

Medical and Osteopathic Doctors per 100,000 Population in the North Central Region

	Physician/Population Ratio M.D. AND D.O.	*Physician/Population Ratio* M.D.
Illinois	140	136
Indiana	106	102
Iowa	117	101
Kansas	116	106
Michigan	141	118
Minnesota	145	143
Missouri	149	122
Nebraska	115	111
North Dakota	90	88
Ohio	136	126
South Dakota	73	67
Wisconsin	117	113

of the mother school of osteopathy. D.O.'s are concentrated to a greater degree than M.D.'s in non-metropolitan areas, with a lower representation in the metropolitan areas.

The rank of Missouri in physician/population ratio among other states in the area varies according to whether or not D.O.'s are included in the computation. When both types of physicians are included, Missouri has the highest physician/population ratio of any state in the North Central Region. When only M.D.'s are considered, three of the 12 North Central States exceed Missouri in physician/population ratio. These rankings are listed in Table 3.

Bibliography

1. American Medical Association Directory, 23rd ed. 2049, 1965.

2. Pennell, M. Y., and Baker, K. I.: Health Manpower Source Book. Sec. 18:25, 1963.

3. Directory of Osteopathic Physicians. 260, 1966.

In Memoriam

Weitman, Maximiliam, M.D., St. Louis, a graduate of the University of Vienna, 1923; member of St. Louis County Medical Society; aged 67; died July 26, 1967.

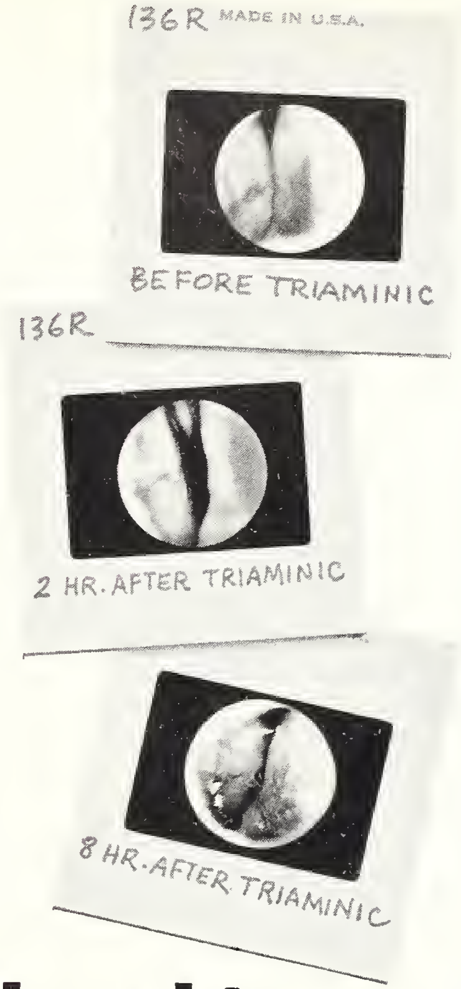
Wennerman, Sam F., M.D., St. Louis, a graduate of Washington University, 1915; member of St. Louis Medical Society; aged 74; died July 28, 1967.

Davis, Irl R., M.D., St. Louis, a graduate of Minnesota University, 1920; member of St. Louis County Medical Society; aged 78; died August 12, 1967.

Warner, George K., M.D., St. Louis, a graduate of Washington University, 1950; member of St. Louis Medical Society; aged 46; died August 14, 1967.

Miller, Howard S., M.D., Macon, a graduate of the University of Colorado, 1922; member of Chariton-Macon-Monroe-Randolph County Medical Society; aged 71; died August 16, 1967.

From a continuing study on nasal congestion . . .



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Each timed-release tablet contains:

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Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets.

Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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Component Society Meeting Dates

Audrain County Medical Society—third Tuesday of each month.

Barton-Dade County Medical Society—third Wednesday of each month.

Benton County Medical Society—meets only on call.

Boone County Medical Society—first Tuesday of each month.

Buchanan County Medical Society—first Wednesday of each month.

Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.

Callaway County Medical Society—third Thursday of each month.

Cape Girardeau County Medical Society—first Monday of each month.

Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.

Clay County Medical Society—last Tuesday of each month.

Clinton County Medical Society—meets only on call.

Cole County Medical Society—fourth Tuesday of each month.

Cooper County Medical Society—first Monday after the 15th of each month.

Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.

Dunklin County Medical Society—first Tuesday of each month.

Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.

Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.

Greene County Medical Society—fourth Friday of each month.

Henry County Medical Society—meets only on call.

Howard County Medical Society—meets only on call.

Jackson County Medical Society—March, May, October and December.

Jasper County Medical Society—second Tuesday of each month, September through May.

Jefferson County Medical Society—meets fourth Tuesday of each month.

Johnson County Medical Society—meets only on call.

Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.

Lewis-Clark-Scotland County Medical Society—meets only on call.

Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.

Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.

Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.

Miller County Medical Society—meets only on call.

Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.

Moniteau County Medical Society—second Thursday of each month.

Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.

North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.

Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.

Pemiscot County Medical Society—third Thursday of each month.

Perry County Medical Society—second Thursday of each month.

Pettis County Medical Society—third Monday of each month, September through May.

Pike County Medical Society—third Tuesday of each month.

Platte County Medical Society—meets only on call.

St. Louis County Medical Society—second Wednesday of each month, September through May.

St. Louis Medical Society—third Tuesday of each month, October through May.

Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.

South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)—fourth Wednesday of each month.

Webster County Medical Society—meets only on call.

West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

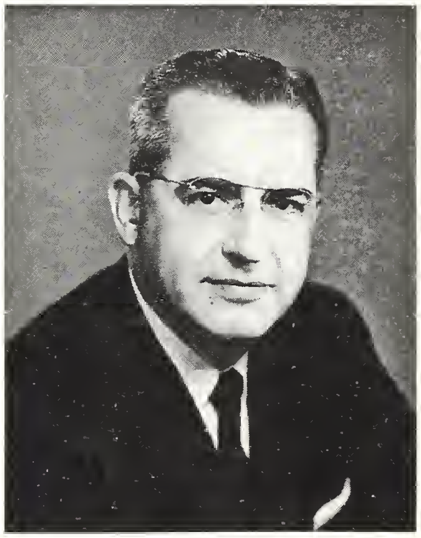
The history of man's communication with his fellow man has been fascinating throughout the centuries. Since the aborigine with his tom tom and the American Indian with his smoke signal, there has been an increasing awareness of man's need to communicate with his brother. In spite of our present, modern methods of communication, one problem still exists—the inability to transmit a message, no matter how efficient the mechanical or electronic equipment. The human element is of prime importance. The recipient of the message *must* have his "receiver" turned on.

The medical profession, among others, often has been handicapped by its inability to maintain constant and effective two-way communications between elected officials of its organizations and its membership.

Representing MSMA, Doctor Kerr, your President-Elect; Dr. Joseph Fisher, Chairman, Public Service Committee; Mr. Allen Smith and Mr. Raymond McIntyre, MSMA staff; and I attended a two-day Communications Institute conducted by the American Medical Association recently. Such Institutes have proved to be worthwhile in their endeavors to point out to officers and staff members of state and county medical societies, as well as organizations allied with health care, various modes and methods of communicating with the people they are trying to reach and, in turn, opening new communication channels for people who are trying to reach them. However, it was felt by some that the group attending this institute could be compared to people who regularly attend church only to be berated by the pastor because so many other people are absent. The message was not reaching the people who needed it most.

Fortunately, the message sometimes is so startling that even those who have not given the problem previous thought are motivated to pay attention. Such has been the reaction I have observed the past few months in MSMA as it relates to problems of medical economics now facing each member of our State Association.

At the MSMA Annual Session in April, the House of Delegates created the new Medical Economics Contract Committee which is composed of the State Association Economics Committee and representatives of specialty groups and chaired by the Chairman of the MSMA Economics Committee. Under the leadership of Dr. Herbert Wiegand, this committee has expanded its membership and its activities at an amazing rate. The amount of work accomplished has been tremendous.



Hector W. Benoit, Jr., M.D.

Response of physicians who have been called upon to participate in the activities of this new committee is heartwarming and interesting to behold. They are attempting to come to grips with problems posed by the recently-passed Medicaid Bill in Missouri and the upcoming negotiations with the Office of Dependent Medical Care (Military Medical Care).

It is interesting to note that apparently it has taken the subject of economics to interest so many members and overcome to a mild degree, at least, the apathy to which our profession and many others have been prey throughout the years.

In spite of the hard work of Doctor Wiegand and and his committee, we still are far from totally satisfactory solutions to these problems and are not yet fully prepared to handle others which will be coming over the horizon in the near future. However, by diligence and proper evaluation of experiences to be garnered in the immediate future, I trust that we, in the profession, will be able to stand with our heads high and indicate our willingness to cooperate with our legislators and still maintain the honor of the profession and our devotion to our patients.

If, after reading these few remarks, you wonder what I'm talking about, I can only suggest that (1) you probably have not had your receiver turned on and (2) it is of greatest importance that you do determine who has been transmitting messages to you. By now, every physician in the state should have had some contact, directly or indirectly, with the Medical Economics Contract Committee. If you have not, perhaps some member of the Committee has erred and it would be wise to point this fact out to him. Remember that communications is a two-way street.

All too frequently, I'm asked, "What does the AMA really do for doctors?" Every week you receive the *AMA News*. Read it. You'll be amazed at what the AMA is doing for you and your patients day by day. No one who sincerely and faithfully reads this publication, the AMA JOURNAL or MISSOURI MEDICINE honestly can ask the question, "What does organized Medicine do for me?" Listen and you will hear. Seek and you will find. Speak and you will be heard.

Woman's Auxiliary

Mrs. John M. Williams

October is a month of Auxiliary Fall Conferences and Workshops throughout the country. I will attend the National Fall Conference in Chicago with our President-Elect, Mrs. E. F. Butler. After four days of study and discussion with the national Auxiliary officers, chairmen, presidents and presidents-elect from the other 49 states, we will be joined by five more of our Missouri state chairmen for two more days of actual workshop activity at the North Central Regional Workshop. Later dates will see the workshops repeated in the other three regions of the United States. Two weeks later, on Oct. 25 and 26, the Missouri Auxiliary will hold its own Fall Conference. All state officers, chairmen, country presidents, presidents-elect and county chairmen are expected to attend. Also, all interested members are welcome and encouraged to attend.

Attendance at these meetings combines business with pleasure. It is a real pleasure to see busy and dedicated doctors' wives go about the business of learning more of the auxiliary structure and program. It is here that we hear of new methods in presenting continuing programs and learn of progress that has been made. We are made aware of new problems and the emphasis that is being requested for certain fields of health education, careers, legislation and related health needs.

This year, the Woman's Auxiliary to the Boone County Medical Society will be hostess to the Fall Conference in Columbia. This is an important service to the Missouri membership and Boone County deserves the appreciation of all for undertaking this big job. We will be honored with the presence and help of two National Auxiliary Chairmen: National Health Careers Chairman, Mrs. Wendell Roller of Monmouth, Illinois, and National Chairman of AMA-ERF, Mrs. Chester Young of Kansas City, Kansas. Dr. Hector W. Benoit, Jr., President of the Missouri State Medical Association, will be a guest and will speak at the only dinner meeting of the session.

We are placing particular emphasis on Health Careers and Legislation at this Conference in the hope that a special interest can be created among the counties and a report at the end of the year will show that each and every county started programs and made progress in both of these activities where help, knowledge and participation are needed so badly. Mrs. Roger Bumgarner, State Auxiliary Health Careers Chairman, will present the program which includes Dr. John Walters, Chairman, MSMA Committee on Nursing and Paramedical Personnel; Mrs. Carol Proctor, President, State League of Nursing; and Dr. Bill Wickersham. Dr. John I. Matthews, MSMA Secretary and Legislation Chairman, will take part in the legislation section led by Mrs. Robert Tanner, State Auxiliary Legislation Chairman.

We cannot help but feel that this fine mixture of National Auxiliary officers, MSMA officers, authorities in health-related fields, our own Missouri Auxiliary officers and members will result in greater knowledge of the work we can do, heightened enthusiasm for the programs we can assume and better understanding of the relationship of all those participating. If we can interest more and more physicians' wives in the vital need and worth of auxiliary function, we may discover more Auxiliary leaders and community leaders. This is all we ask to make the effort of a Fall Conference worthwhile!

EDITORIALS

SEE YOUR FAMILY PHYSICIAN

Does your husband like to dress in women's clothing? Does your child maim the family pets? Does your wife undress in the closet? If so, according to Ann Landers, you should see your family physician. The same advice issues from insurance companies, government agencies and makers of patent medicine. Even *Dr. Steincrohn* has a nasty habit of dropping hot potatoes in old Doc's lap.

The admonition, however, is totally unnecessary. Americans are sold on medical care as never before. We are, in fact, a nation of doctor-goers. For problems, large and small, old Doc gets the call.

And why not? The very words conjure up a nostalgic vision of warmth and kindness. Every day the news media increase the doctor's luster with announcements of dramatic new discoveries which promise to put an end to suffering and disease. Miracle drugs—electronic pacemakers—these are already here. The cure for cancer and heart disease appears to be just around the corner. Add to this the natural need of a patient to feel that his doctor is all powerful and can cure him. Now we have the picture complete—the doctor cast in a role that no mortal man can fill. It is to the credit of the medical profession that we try. The amazing fact is that we do as well as we do.

Perhaps it is time to have another look at the doctor's role in modern society. Today's patient is better educated, more sophisticated and better prepared to deal with unpleasant realities if they are properly explained. Furthermore, he has a right to have the basic facts of his case clearly and honestly presented.

Indeed, today's doctor *is* primarily a teacher and his major function *is* health education. Perhaps one of the first things he should teach his patient is that doctors are not omnipotent. He must have the self confidence to be able to say, "I don't know," without fear of losing his patient's respect. This calls for a touch of humility—an admirable quality in any physician.

SHERMAN M. STEINZEIG, M.D.
Greater Kansas City Medical Bulletin

IT'S ONLY $234.10!

Quite recently in our office, I was refreshed by the fine humor of a Taney County farmer who managed to put a humorous twist to every question I asked him. Finally, he beamed a great gold-toothed grin in my direction and said, "Doc, it'd be a terrible world if a man couldn't enjoy each day as he went along." Then he sagely added, "It's bad enough, anyhow!"

Well, this homespun philosophy seemed to fit ideally a Medicare situation which I got in on the other day. As far as I am concerned, anything which would serve to leaven the manifold headaches of Medicare would be more than welcomed by me, my partner, secretaries, acquaintances *et al.*

This story concerns Dr. Lee Hoover, who hasn't practiced since August, 1958, but who suddenly received two checks from our Medicare intermediary. These totalled $234.10. With considerable flourish it was explained that these checks were in payment for hospital and office services for a patient who resided in Monett. Shortly thereafter Lee wrote a letter to the insurance company to the effect that he could certainly use the money but that he thought it would hardly be cricket. He asked for advice about disposing of the checks.

Seventeen days later he had heard nothing. His good character and good judgment caused him to write a second letter and enclose a copy of the first. He hopefully suggested that it might be cheaper for the government if he spent the checks than for them to backtrack through all the affiliated agencies to set things aright.

On the same day he mailed the second letter, a form-letter reply was mailed from Saint Louis. This letter contained seven lines of reference in its heading, but no signature. The letter stated that, according to the law, it was not necessary for Dr. Hoover to return the $234.10 if: (1) "The over payment was made to you through no fault of your own," or (2) "Paying it back would keep you from meeting your ordinary and necessary living expenses; or would be unfair for some other reasons; that is, by means of the overpayment you gave up a valuable right or *changed your position for the worse.*" (It failed to explain how giving up $234.10 could change his position for the better.)

Now, don't misunderstand me! I'm not put out with the General American Life Insurance Company. I have a sneaky feeling I should be very happy that E. H. Borman and General American is handling this mess instead of other hands which were eager for the job. I am only tragically amused that fiscal responsibility can be so lightly dismissed by decree. With such sharp accounting practices, God knows how much else can go down the drain, when it has already been necessary to devise a form letter to cover such a situation.

Anyway, Lee returned the checks and was this time rewarded with a signed letter to the effect that a mistake had been made. The socialists pouted, the rugged individualists chucked and the public went their tolerant, pleasure-ridden way—paying for the worst bookkeeping and the fantastically most expensive medical care ever yet devised.

WILFRED E. WOOLDRIDGE, M.D.
Greene County Medical Society Bulletin

COMMENT . . .

Our Readers Write

New Abortion Laws Would Test Physician's Conscience

This age in which we live seems to find too many of the general public of the opinion that our traditions are false guides to living and that the metes and bounds set by religion are only handicaps to our desires and actions.

Considerable numbers of the laity and at least some of our theologians and our leaders in religion seem to subscribe to the dictum, "God is dead."

Liberalization of our laws on abortion seems to go hand-in-hand with the advocates of this aforementioned dictum: These two ultramodern ideas are reminiscent of the atheistic communism in its beginnings of 40 or 50 years ago. The liberation of men's minds from the restraint of conscience and a living God produced the distruction of millions of peasants by starvation and the Russian abortion clinics. The cry then by those who governed Russia was overpopulation and the need of wheat for export to bolster national economy. Are Americans so naive as to accept this philosophy that we deny God and have so lost faith in the natural laws governing our population?

The trend toward mass acceptance of communist doctrine and philosophy must be halted if we are to retain our liberties under our Constitution. The drift toward communist theory seems to be growing in the minds of men. As a physician of nearly 60 years in the profession of medicine, I feel it my duty to protest the changes in our laws and the changes in the code of ethics of the AMA. It is difficult to see the landmarks under which I have practiced so long destroyed or modified to suit the clamorers of disaster, who have invaded the minds of men, implanting fear of ultimate starvation of humanity and easing of conscience by assuring us that "God is dead."

When a Doctor of Medicine takes the Oath of Hippocrates, he is interdicted from performing abortion. The Commandment, "Thou shalt not commit murder," is a most definite restriction for one who believes in God. Early in life, my instructors in theology implanted in me the belief that the soul is attached to the embryo at the time of conception. The destruction of this "glob of protoplasm" constitutes murder as surely as it does when one shoots a fellow human being in the back.

Who knows how many great minds have been lost to the world and to society by the meddlesome interference of a therapeutic or a criminal abortionist.

The new laws on therapeutic abortion will be a test on the conscience of physicians. Some will accede to demands, easing their way with excuses that are false to their professional knowledge. I still maintain that the life of a mother is put in more jeopardy by an abortion than by most of the conditions which are supposed to be the excuse.

This writing may be criticized by some as the vapidity of a senile old man. If so, it is with sorrow that I am forced to witness the breakdown of morality in most phases of American life, which should be apparent to any student of history. Witness the history of the Ancient Greek, Roman or Carthaginian democracies and republics.

Charles D. Osborne, M.D.
Sedalia

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New Members

Virgil F. Burry, M.D., 1710 Independence Ave., Kansas City, has become a member of Jackson County Medical Society. Dr. Burry is a native of Kansas City, received his preliminary education at Wabash College and his M.D. degree at the University of Kansas in 1962. He specializes in pediatrics.

Manual S. Curiel, M.D., 751 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Curiel is a native of Mazatian, Sinaloa, Mexico, received his preliminary education at Colegio San Nicolas and his M.D. degree at the University of Guadalajara in 1955. He specializes in anesthesiology.

Joseph H. Depoe, M.D., 9406 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Depoe is a native of Kansas City, Kansas, received his preliminary education at Baker University and his M.D. degree at the University of Kansas in 1957. He is in general practice.

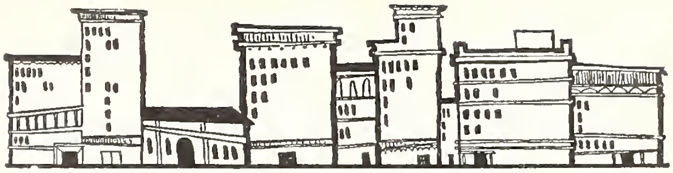
Pierre W. Keitges, M.D., 4949 Rockhill Road, Kansas City, has become a member of Jackson County Medical Society. Dr. Keitges is a native of Danbury, Iowa, received his preliminary education at Creighton University and his M.D. degree at Creighton University in 1957. He specializes in pathology.

Drury M. Love, M.D., 309 Adams, Jefferson City, has become a member of Cole County Medical Society. Dr. Love is a native of Pittsburg, Kansas, received his preliminary education at the University of Maine and Harvard University and his M.D. degree at Cornell University in 1949. He specializes in obstetrics and gynecology.

Stephen B. Pakula, M.D., 751 East 63rd St., Kansas City, has become a member of Jackson County Medical Society. Dr. Pakula is a native of Kansas City, received his preliminary education at Harvard College and his M.D. degree at Washington University in 1962. He specializes in pediatrics.

Herbert J. Waxman, M.D., 8300 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Waxman is a native of Kansas City, received his preliminary education at Washington University and his M.D. degree at the University of Kansas in 1961. He specializes in internal medicine.

From the Medical Schools



UNIVERSITY OF MISSOURI

Four registered medical technologists at the Medical Center have formed the vanguard of a medical team to set up an intensive training program in pathology at the University of Saigon Medical School beginning with the fall term.

Under a program developed by the U. S. Agency for International Development and the American Medical Association, eight departments in American medical schools have "adopted" counterpart departments in the medical school in Saigon, a new facility which opened earlier this year. Missouri's pathology department is among these groups which will supply instructors to advise and assist native faculty in Vietnam and bring some of the Vietnamese professors to this country for advanced training.

The experimental exchange marks the start of a long range program to improve the quality of medicine and increase the number of physicians in Vietnam. Now there is one physician for every 25,000 people.

Four medical technologists from the University of Missouri reported to Saigon Medical School in September as the vanguard of a medical team that will establish an intensive training program in pathology at the Vietnam school in an effort to improve the quantity and quality of medicine in that nation. In the group are (seated, l. to r.) Mrs. Margaret Jackson, Jefferson City, and Miss Paulette Snyder, St. Joseph; (standing, l. to r.) Miss Edna Horrell, Columbia; Payne Percefull, Columbia; and Dr. Donald Senhauser, medical pathologist, who will start the teaching program for Vietnamese students.

Dr. Fred V. Lucas, chairman of the department of pathology at the University, laid the groundwork for this program when he spent several weeks in Vietnam last spring. After his return to the Medical Center in April, he summarized his findings and recommendations in a report that will now be the basis for the Saigon medical school's three-phase training program in pathology.

To begin the first phase, Payne Percefull, chief technologist at the Medical Center, arrived in Saigon on Sept. 1 to make final arrangements for supplies. Following him in mid-September were three more medical technologists: Mrs. Margaret Jackson, whose special training is in cytology, microbiology and blood bank; Miss Paulette Snyder, chemistry and hematology; and Miss Edna Horrell, tissue and cytology. They will stay a year; Percefull, three months.

With the technical staff in place, Dr. Donald Senhauser, professor of pathology, will start the teaching program for Vietnamese students this month. Two other faculty members, Dr. H. J. Van Peenen and Dr. Earl Kerr, will follow in January and March, each staying two or three months. Miss Thaney Scott, the department secretary, will be sent for three months to help organize the administrative office work.

Dr. Lucas plans to return to Vietnam in May to evaluate the first phase and plan the second phase of the total program, which is expected to continue over a period of five or more years. After a central laboratory has been organized, emphasis will be on technical competence.

Dr. Tran Tho Ngiep, Vietnamese instructor in surgery, studied at the medical center in July. Dr. Nguyen Huy Can, professor and chairman of the department of pathology at the University of Saigon, will arrive this month for a minimum of six months here.

During this first year five Vietnamese technicians were expected to come to Missouri in

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September and three in January for training in the pathology laboratories.

Other American medical schools and their departments taking part in the exchange program are the University of Nebraska (anatomy), Georgetown University (physiology), State University of New York (biochemistry), University of Oklahoma (public health), University of Seattle (microbiology), University of Michigan (internal medicine) and Emory University (anesthesiology).

A wide variety of topics will be discussed by specialists on the program for the eighth annual M.D. Day on the Columbia campus of the University on Oct. 27-28. Guest speakers will include seven members of the faculty of the University of Oklahoma School of Medicine.

In addition to offering a scientific program for practicing physicians in Missouri and neighboring states, M.D. Day is an occasion for reunion of School of Medicine alumni. The medical school class of 1942 will hold its 25-year reunion and the classes of 1957 and 1962 also are planning reunion activities.

ST. LOUIS UNIVERSITY

Dr. Denis Cavanagh, professor and chairman of the department of gynecology and obstetrics, was named the Edwin C. Tooth Visiting Professor at the University of Queensland, Brisbane, Australia. This honor recognizes authority in the field of surgery, internal medicine or gynecology and obstetrics. The professorship was founded by a Brisbane businessman to encourage greater exchange of views between professors in Australia and other parts of the world. Under the honor professorship, Dr. Cavanagh directed the residency training and patient care program at the University of Brisbane for one month and participated in the postgraduate courses, delivering five lectures in his specialty.

Dr. Cavanagh also attended and showed two films at the Fifth International Congress on Obstetrics and Gynaecology in Sydney, Australia. The films produced at St. Louis and Miami Universities are on "Radical Vulvectomy in Pregnancy" and "Radical Vulvectomy with Posterior Exenteration."

Dr. Robert E. Olson, professor and chairman of the department of biochemistry, presented a paper before the Seventh International Congress of Biochemistry in Tokyo entitled "Mode of Action of Vitamin K and Coumadin in Controlling Hepatic Prothrombin Synthesis."

Other biochemistry faculty members who attended this Congress were Dr. Anthony Mortonosi, associate professor of biochemistry; Dr. Harold J. Nicholas, associate professor of biochemistry; and Dr. Annemarie Weber, professor of biochemistry. Dr. Martonosi presented a paper entitled "Properties of the Solubilized ATPase of Fragmented Sarcoplasmic Reticulum Membranes" and Dr. Weber delivered a paper entitled "Energy Coupling During Calcium Uptake by Sarcoplasmic Reticulum."

WASHINGTON UNIVERSITY

Dr. William Maxwell Cowan has been appointed professor and head of the department of anatomy. He succeeds Dr. Edward W. Dempsey who served in this post from 1950 until 1966, when he became professor and head of the department of anatomy at the College of Physicians and Surgeons of Columbia University in New York City.

Dr. Cowan presently is serving as associate professor of anatomy at University of Wisconsin Medical School. A native of South Africa, he received his Bachelor of Science degree in 1951 from Witwatersrand University in Johannesburg. He also holds doctor of philosophy, bachelor of medicine, bachelor of surgery and master of arts degrees from the University of Oxford in England.

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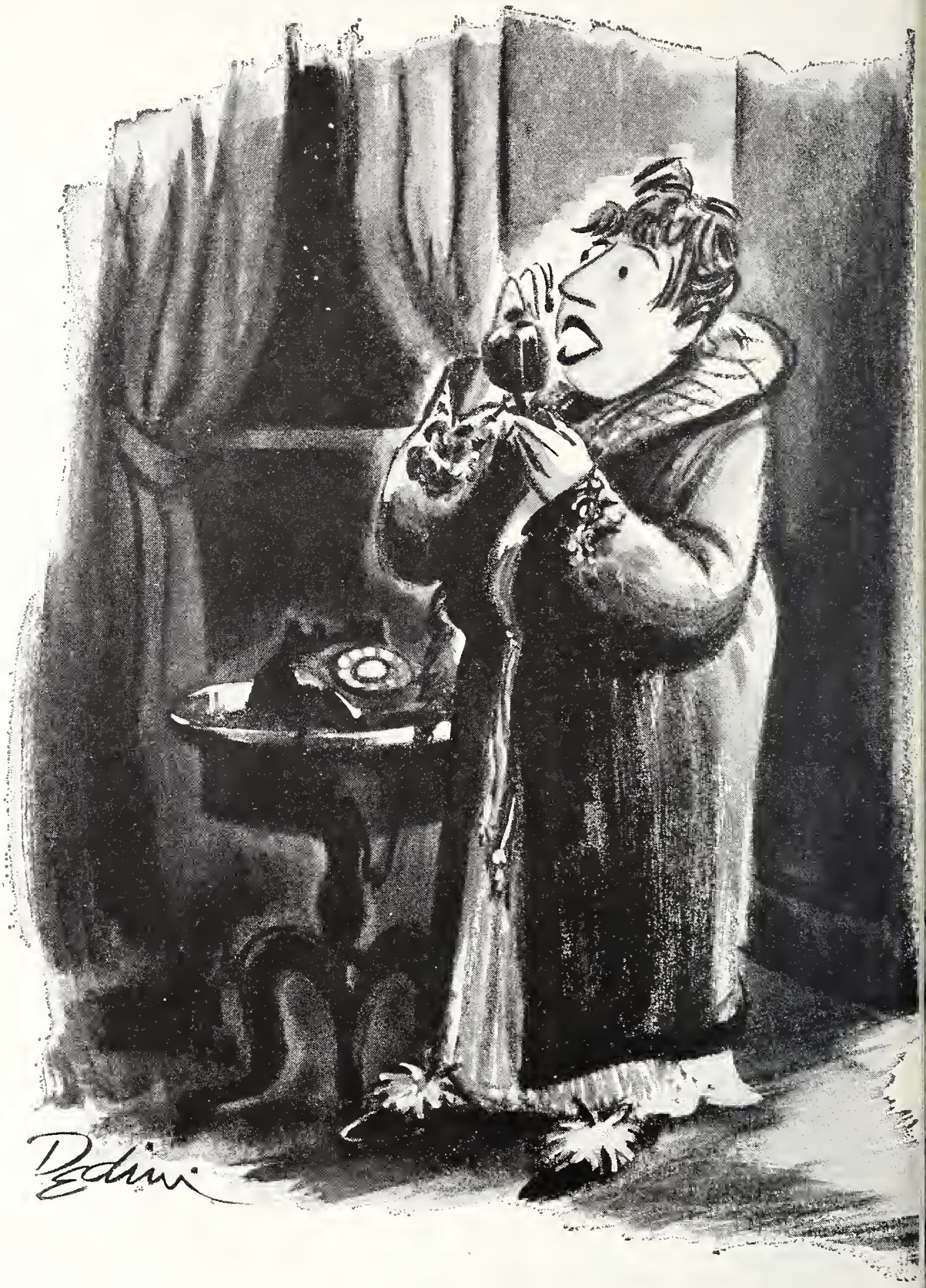

"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

MSMA—AMA Co-Sponsor Clinical Nutrition Lectures

The Missouri State Medical Association and the AMA will co-sponsor lectures on clinical nutrition in four Missouri colleges and universities during the 1967-1968 academic year.

All MSMA members are invited to attend the lectures which are designed to inform students and faculty of recent developments in the field of nutrition and to stimulate the interest of undergraduate students in considering careers in the health sciences.

Dr. L. J. Filer, Professor of Pediatrics at the University of Iowa College of Medicine, will speak on "Current Problems in Pediatric Nutrition" at Central Missouri State College in Warrensburg on Tuesday, October 10 at 7:30 PM and at Northwest Missouri State College in Maryville on Wednesday, October 11, at 2 PM.

Dr. Jack Metcoff, Professor and Chairman, Department of Pediatrics at Michael Reese Hospital and Medical Center in Chicago, will give a lecture at Northeast Missouri State Teachers College in Kirksville on Tuesday, February 6. A definite date for his lecture at Lincoln University in Jefferson City has not been determined.

Component medical societies of MSMA requested to assist these schools in promotion of the lectures are Johnson County Medical Society, Northwest Missouri Medical Society, North Central Counties Medical Society and Cole County Medical Society.

The clinical nutrition lecture program was initiated in 1964 by the AMA Council on Foods and Nutrition and will present a total of 38 lectures this year in the ten-state regional area which includes Illinois, Indiana, Kansas, Maine, Massachusetts, Michigan, Missouri, Nebraska, New Hampshire and Rhode Island.

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AMA Testifies on Fee Change, Social Security Bill

The American Medical Association strongly opposed a suggestion that doctors' fees under Medicare be based on Blue Shield schedules.

The suggestion was made to AMA officials while they were testifying before the Senate Finance Committee on the House-approved social security bill which includes amendments to the Medicare and Medicaid programs. Dr. Samuel R. Sherman, San Francisco, Chairman of the AMA's Council on Legislative Activities, said there would be heavy opposition from the medical profession to any change from the present usual-and-customary fees.

Dr. Milford O. Rouse, President of the AMA, gave general approval to the bill passed by the House which, he pointed out, incorporated a number of changes recommended by the AMA. He said further substantive changes could await the knowledge that one or two more years of experience would bring. However, he urged that consideration then be given to major changes in Medicare Plan B which covers physicians' services.

Other points in the AMA testimony included:

—Beginning with the provisions of Title XVIII (Medicare), the (House) bill does not place the disabled of all ages under Medicare, as had been proposed earlier. AMA believes the House acted wisely in establishing, instead, a special Advisory Council to study the problems related to the inclusion of this group and to study the costs involved.

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I'M A GIRL
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—In addition to the present method of payment for physician's services, the (House) bill provides two new options: either the physician can submit his itemized bill directly to the carrier, in which case payment of 80% of the reasonable charge would be made to him, providing the full charge does not exceed the reasonable charge, or to the patient at his direction; or the patient may submit the itemized bill and be paid 80% of the reasonable charge. From the program's inception, the AMA has urged that the payment be permitted on the basis of an itemized statement of charges.

—Outpatient hospital diagnostic services would be transferred to Part B of Title XVIII and be subject to the deductible and coinsurance features. This is in keeping with the AMA recommendation to the House Ways and Means Committee that outpatient services be included under Part B, and so remove the administrative difficulty of distinguishing between therapeutic and diagnostic services.

—The bill eliminates both the requirement for initial physician certification for hospitalization of Medicare patients and the requirement for physician certification for outpatient hospital services. The AMA recommended the elimination of initial certification and the subsequent recertification. AMA continues to recommend the addition of this second step to eliminate the requirement of any certification, since any need in this regard will be satisfied by the work of the medical review or utilization review committee.

—AMA believes that physicians, having been brought under Social Security, should be accorded the same privilege and opportunity for reaching a fully insured status as was accorded other professional groups when they were included in the program. Accordingly, AMA urged the Committee to consider the adoption for physicians of an "alternative insured status" similar to that permitted by the amendments of 1954 and 1956 which brought into the program many new groups of people and professional self-employed persons, including lawyers. Further, AMA urged the Committee to consider amendments that would "drop out" an appropriate number of years for physicians to make their eligibility for cash benefits both equitable and realistic.

Continuing Education Coming Events

Oct. 4-5	**Annual Midwest Interprofessional Seminar on Diseases Common to Animals and Man** University of Missouri, Columbia
Oct. 17-20	**"A Comprehensive View of Gastrointestinal Diseases"** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Oct. 20-22	**19th Annual Scientific Assembly** Missouri Academy of General Practice Tan-Tar-A Resort, Osage Beach
Oct. 24-25	**Postgraduate Medical Study—Medicine and Religion** University of Kansas Medical Center Battenfield Auditorium, Kansas City, Kansas
Oct. 25	**An Afternoon of Clinical Neurology** St. Louis Area Chapter, National Multiple Sclerosis Society and the St. Louis Medical Society St. Louis Medical Society Auditorium
Oct. 27-28	**M.D. Day** Continuing Education, M.U. School of Medicine Medical Center Auditorium, Columbia (acceptable 6½ hours AAGP credit)
Nov. 2-3	**Seminar: Pediatric Allergy** Sponsored by American College of Allergists Menorah Medical Center, Kansas City
Nov. 7-10	**Neurologic and Psychiatric Problems of Medical Patients** (4 day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)

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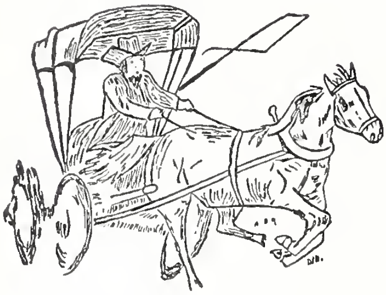
LEO H. POLLOCK, M.D.

Missouri Medicine in Review



FORTY YEARS AGO

For the first time in four years, the Missouri State Board of Health resumed the issuance of licenses to practice by reciprocity with other states when it issued 14 licenses on the reciprocity basis at its July meeting in St. Louis.

On Sept. 8, the United States Census Bureau wired the Missouri State Board of Health that Missouri had been admitted to the Birth Registration Area. In order to be admitted, the records of the Board of Health must show that 90% or more of the births are reported and recorded. The Census Bureau does not accept the Board's statement that 90% of the births are so recorded, but sends its own representative from Washington to check. On two previous occasions, the Board of Health asked the Census Bureau to check our records, but the investigations on these occasions failed to disclose 90% returns.

Applications for admission to the freshman class of St. Louis University School of Medicine numbered 483. Of this number only 183 students were accepted. Forty-four are from the University's premedical classes.

TWENTY-FIVE YEARS AGO

The MSMA Council met at the Coronado Hotel in St. Louis on September 20. Dr. W. A. Bloom, Fayette, Chairman, presided. Councilors present were Drs. A. S. Bristow, Princeton; Curtis H. Lohr, Sedalia; H. L. Mantz, Kansas City; Wallis Smith, Springfield; E. J. Nienstedt, Sikeston. Others attending were H. L. Kerr, Crane, President; R. L. Thompson, St. Louis, Secretary-Editor; C. E. Hyndman, St. Louis, Treasurer; R. M. James, Joplin; E. Lee Dorsett, Joseph C. Peden, C. H. Neilson and Robert Mueller, St. Louis. The question of Executive Secretary was discussed and a resolution was adopted to place Mr. E. H. Bartelsmeyer on a less arduous advisory basis.

According to the annual yearbook of the National Safety Council, titled "Accident Facts," 102,500 persons were killed in accidents in 1941. Motor vehicles accounted for 40,000 deaths and accidents in the home for 31,500.

Sulfathiazole (a derivative of sulfanilamide) is an effective adjunct to surgery in cases of severe advanced acute appendicitis and in the complications of appendicitis," Robert K. Anderson, M.D., Chicago, reports in *The Journal of the AMA* for March 14.

TEN YEARS AGO

The Smith-Glynn-Callaway Clinic in Springfield recently pledged $50,000 to the Springfield Baptist Hospital. Drs. Robert Glynn and Guy D. Callaway, representing the Clinic, made this pledge for more than one-fifth of the total goal of $225,000 with which the hospital plans to rehabilitate its half-century-old plant and add 30 new beds, therapy department and business offices.

The secret of longevity in this fast-moving age is "Slow down. Take things easier. Worry less and enjoy a longer and happier life." This sage advice comes from Thomas B. Pote, M.D., St. Louis, who marked his 90th birthday recently by walking five miles.

A prominent Sedalia physician and surgeon has retired after 54 years of practice in Pettis County. He is David P. Dyer, M.D.—A basket dinner and program honoring a well-known Galt physician, U. C. Weston, M.D., was held September 1 at the Galt City Park. A "Stork Club" was formed by persons who had been delivered by him as an additional honor for Dr. Weston. During his long career, Dr. Weston has delivered over 1,800 babies.

The historic George Hall residence in Waverly has been purchased by Dr. George A. Kelling and his sons, Drs. Jordan and Douglas Kelling. The old Hall house, built before the Civil War, will be razed to make way for a new hospital and clinic. The Kellings, who have practiced medicine in Waverly for many years, plan to construct a 40-bed hospital on the site.

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References:

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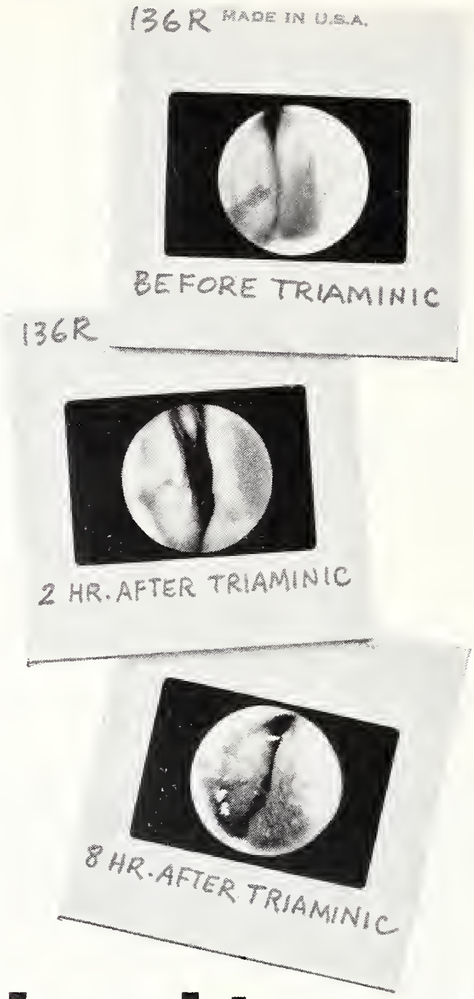

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MSMA Provides Guidelines for Medicaid

The Missouri State Medical Association, through its Medical Economics Contract Committee, is working closely with the Missouri Division of Welfare in determining guidelines for payment of physicians' services for welfare recipients under the Medicaid (Title XIX) program in Missouri. The proposals, which were approved by the Council at its September 16-17 meeting, have been forwarded to the Division of Welfare.

In the absence of Dr. Herbert C. Wiegand, Chairman of the Medical Economics Committee and the Medical Economics Contract Committee, Dr. Hector W. Benoit, Jr., MSMA President, reported for the Committee and reviewed its actions at the meetings on August 6 and 20. He stated that the August 6 meeting was attended by Mr. Proctor Carter, Dr. H. O. Loyd and Mr. Ed Singleton, all of the Division of Welfare which will administer the program. They gave a detailed explanation of the program and plans to pay for physicians' services on a usual and customary fee basis.

The Committee presented the following series of policy and procedure proposals for Council approval. After Council amendments and approval, they read as follows:

1. Every medical specialty will present through the Missouri State Medical Association to the State Division of Welfare a set of figures indicating suggested fee levels, above which fees will be subject to review. The figures could be used as guidelines in administering the Title XIX (Medicaid) program in Missouri and may be made available to any other governmental or private agency serving as a third-party in a medical care program.
2. Any claim for a professional fee in excess of the guide-line levels would be subject to review by the program administrator who would decide to (a) pay the claim as submitted or (b) refer the claim to an appropriate professional review committee for consideration.
3. Every medical specialty will establish a claims review committee consisting of at least three physicians whose names will be submitted to the Division of Welfare. Such committee will examine fee claims which are referred to it by the third-party administrator and will make appropriate recommendations to the administrator. A copy of the recommendation will be sent to the Chairman of the MSMA Medical Economics Contract Committee for possible reference or use by the Committee.
4. All cases submitted to claims review committees will be prepared in such a way as to preserve the anonymity of the persons directly involved. Any continued disagreement should be heard by the local medical society like all other complaints are heard.
5. The recommendation of a claims review committee should be given serious consideration by the administrator. Any physician who is dissatisfied with the final decision of the administrator retains the right either to accept or refuse the proffered fee and either to accept or refuse additional patients under the program.
6. It is understood that physicians' fees may, and should, change according to developments in medical science and in the general economy. Such changes must be reflected continuously in medical care programs involving payments by third-parties. On request of the Missouri State Medical Association, a re-evaluation of the "usual and customary" fees shall be granted by the administrator of any third-party program.
7. It is recommended that all physicians continue to charge and bill their "usual and customary" fees for services under third-party programs, whether or not such fees are paid in their entirety.
8. It is suggested that members of Professional Claims Review Committees should receive actual and reasonable expenses of such committees to be borne by the third-party which administers or sponsors the program.

Doctor Benoit then presented the following additional recommendations of the Medical Economics Contract Committee to the MSMA Council, which were approved:

1. That the Council investigate and make appropriate recommendations relative to the utilization of professional claims review committees in the Title XVIII (Medicare) program administered by General American Life Insurance Company or in any medical care program involving third-party carriers and members of the Missouri State Medical Association. (After discussion of this recommendation to the Council, on motion of Doctor Benoit, duly seconded, it was agreed that the Council direct the Medical Economics Committee to investigate and make appropriate recommendations relative to the professional claims review committee.)
2. That the Council consider what position or action the Missouri State Medical Association should take if the funding of a government health care program proves to be inadequate. (The Committee believes that it is the primary responsibility of the State Legislature to fund health care programs ade-

(Continued on page 899)

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Council Meeting (Cont'd)

quately; it is the responsibility of the Director of the Division of Welfare to disburse these funds properly to the purveyors of service. The Committee feels that physicians should stand ready to cooperate in negotiations relating to fee matters under such health care programs. Physicians should not, however, be expected to reduce their "usual and customary" fees for service if or when a government program proves to be inadequately funded.) (After reviewing this paragraph, motion was made and seconded that this matter be referred to the Legislative Committee for further study.)

Doctor Benoit read a letter from the Department of the Army administering the Civilian Health and Medical Program of the Uniformed Services (ODMC) which indicated that, when present state contracts are terminated, the new policy will reimburse physicians for services under the program on "a usual, customary and reasonable" fee basis. Under this new, proposed program for Missouri (which would become effective Jan. 1, 1968), the Council agreed to recommend to the Army that Missouri Medical Service be retained as the fiscal agent for the ODMC program in this state.

A proposed "Physicians Participation Agreement" for the new Missouri Medicaid program was discussed and certain recommendations were approved for submission to the Division of Welfare in order to simplify a number of items and reword others to conform to MSMA policies. The proposal will be circulated by the Missouri Division of Welfare to physicians in Missouri in the near future.

Dr. Arthur W. Neilson, AMA Delegate, reported on the AMA Annual Session in Atlantic City in June. He said that the six resolutions introduced at the session by the Missouri delegation received full consideration and were approved or referred to proper committees, councils or Board of Trustees of the AMA for further consideration. (A detailed report on these resolutions was published in the August, 1967, issue of MISSOURI MEDICINE, page 670.)

Mr. Ray McIntyre, MSMA Executive Secretary, called attention to the resolution regarding MMPAC Joint Dues billing which was passed by the 1967 House of Delegates. He stated that a copy of the resolution had been sent to all County Society Secretaries with a letter requesting that the Societies notify the MSMA Headquarters Office if they do not wish to have voluntary MMPAC dues included on their annual dues notices. He reported that replies from several county medical societies stated they do not want the MMPAC dues included on the regular society dues billing form. In action taken by the Council, separate billing was approved for those county societies that do not desire joint billing. MMPAC contributions are to be made on a voluntary basis.

Dr. Joseph L. Fisher, Chairman of the Public Service Committee, presented that Committee's proposal to hold a conference for local medical society officers in an effort to improve relationships between the State Association and its local societies and to alert local society leaders to the broad programs and policies of organized medicine. It had been decided to hold the Conference in Columbia on November 4-5.

Doctor Fisher then gave a report of the 1967 AMA Communications Institute in Chicago on August 24-25. He stated the meeting reflected an interest of some state medical associations in conducting membership surveys to determine whether or not their present programs and objectives are satisfactory to members. He discussed a number of communications problems of Medical Societies and suggested solutions as presented at the Institute.

Dr. John I. Matthews, Chairman of the Committee on Legislative Matters, reported on the 74th General Assembly. He said that representatives of MSMA appeared as witnesses 27 times.

Doctor Matthews stated that the bill creating a State Board of Health was passed and was supported by the Association. Title XIX and the State Board of Health bills have been signed into law. An LSD (Hallucinogenic Drug) Bill was passed and put under the Narcotics Control Law. The Association appeared in support of legislation allowing certain patients in mental institutions to return to their own homes. He reported that the Association opposed four pieces of chiropractic legislation, none of which was passed.

Doctor Matthews discussed the need for more action against those persons who are illegally and unlawfully practicing medicine in this state. A resolution was adopted by the Council in this regard and has been forwarded to the State Board of Registration for the Healing Arts.

Mr. Art Seeds, AMA Representative to Missouri, reported on the status of important medical bills currently under consideration in Congress. He said that Partnership in Health, H.R. 6418, which was to be considered soon by the House of Representatives, contained a section strongly opposed by the AMA. The section would provide direct money grants to hospitals over the country by-passing the long-standing Hill-Burton program.

After full discussion, the Council sent a telegram over the signature of Doctor Benoit, President of MSMA, to all Missouri members of the House of Representatives asking their support in deleting that section of the bill.

Dr. Richard W. Yore, Chairman, announced that the Scientific and Postgraduate Work Committee, at its meeting on May 21, had reviewed the 1967 MSMA Annual Meeting program in St. Louis and consider it to be one of the best the Association has offered in many years. Plans were adopted for the 1968 program to be held at the Muehlebach Hotel in Kansas City on March 28-31, with satisfactory progress of the program development to date.

Doctor Benoit reported that he and Mr. John W. Noble had attended the IRS hearing in Washington, D. C. on July 19 relating to a proposal to tax medical society journal advertising. He stated that MSMA was the only state medical association represented in person at the hearing. He read the statement he presented and which was printed in the Congressional Record and published in the October issue of Missouri Medicine. Mr. Seeds reported that the IRS probably will not take action on this matter until Congress expresses its opinion.

In the absence of Dr. Walter Gunn, Chairman, Dr. Robert A. Mayer reported on the Ad Hoc Committee Relating to St. Louis Blue Cross, which was appointed in conformity with the Resolution passed in the 1967 session of the House of Delegates. The Committee recommended that the responsible parties, the Blue Cross and hospitals in Missouri, do everything possible to negotiate settlement of the problem of hospital reimbursement. The Council recommended that the Committee continue to study this matter.

Doctor Benoit reported that the Board of Trustees of the Missouri State Medical Foundation met on September 15 to review Foundation activities. He stated that, during a five-year period, the Foundation had made 472 loans to 198 students. He added that, due to increased costs to students, more loan money is needed. Since the $7.50 MSMA assessment will expire in 1968 and voluntary contributions have been very low, he said that action should be taken to provide more loan funds. The Council unanimously approved a recommendation for another assessment in the amount of $10.00 annually per member for a three-year period (1969, 1970, 1971) to be submitted to the 1968 House of Delegates for the MSMF program.

It was reported that a training program in psychiatry for osteopaths is under consideration at the Nevada State Mental Hospital. After discussion, it was agreed that this matter be referred to the Mental Health Committee and Medical Education Committee for study.

Dr. Max Franklin reported that Dr. James M. Whittico, Jr. of St. Louis was elected President-Elect of the National Medical Association, Inc. It was agreed that a note of congratulations be sent to Dr. Whittico from MSMA.

Council members attending the meeting were:

Doyle C. McGraw, M.D., Chairman, 8th District
Joseph L. Fisher, M.D., Vice-Chairman, 1st District
Lysle M. Bach, M.D., 2nd District
Robert A. Mayer, M.D., 4th District
James C. Cope, M.D., 5th District
Rolla B. Wray, M.D., 6th District
Gerald L. Miller, M.D., 7th District
E. A. Stricker, M.D., 9th District
Hector W. Benoit, Jr., M.D., MSMA President
David N. Kerr, M.D., MSMA President-Elect
John I. Matthews, M.D., Secretary
Max S. Franklin, M.D., Treasurer
Byron M. Stuart, M.D., Immediate Past-President

The next meeting of the Council will be held in Jefferson City on December 9 and 10, 1967.

This Council report covers only the highlights of the September meeting. The complete official report of Council proceedings is on file in the Executive Office of MSMA and copies have been sent to all members of the Council and to component medical societies.

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References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966. *U. S. PATENT NO. 2,895,877

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ROBERT L. GLASS, M.D., ***Sedalia****

Emile Holman, Moberly's Son: Pioneer Vascular Surgeon

Among the giants of American surgery, Moberly's Emile Holman must be counted. He is best known for his definitive studies on arteriovenous fistulae and many other works on cardiovascular disease, but he also published important studies on such varied topics as skin homograft rejection, lung absecesses and surgical exposure in biliary surgery.

The roots of the Holman family are solidly planted in Central Missouri. Emile's great-grandfather emigrated from Germany to Steinhagen, near Warrenton and both of his parents were born in this region. Emile's father attended the old Central Wesleyan College in Warrenton before becoming a Methodist minister.

One of Reverend Holman's early assignments was in Moberly. There, on Aug. 12, 1890, Emile was born in the parsonage behind the German Methodist Church. Six years later, the Holmans left Moberly for a new parish in Rock Island, Illinois. Future pastoral assignments took the family to Highland, Illinois, and finally, to California where young Holman graduated from Pasadena High School in 1907. He attended Stanford University and graduated in 1911. During his last three years at Stanford, Holman served as secretary to David Starr Jordan, then President of Stanford University. His being assigned this position was early recognition of his skill as an administrator. Chancellor Jordan's later recommendations to Johns Hopkins Medical School described Holman as ". . . a capable young man with excellent executive ability." This was a prophetic recommendation for a man who would later develop a great department of surgery.

Doctor Holman won a Rhodes scholarship when he left Stanford in 1914 and worked for three years with physiologist Charles S. Sherrington at Oxford. Sir William Osler, the patron saint of internal medicine, was another of his teachers there.

Emile F. Holman, M.D., Professor of Surgery, Stanford University School of Medicine, 1926-1955.

During his Oxford years, he served on Herbert Hoover's Committee for Relief in Belgium and with the American Field Ambulance in the French Army.

On the basis of his excellent work at Oxford, Holman was admitted to the fourth-year class at Hopkins, where he received his M.D. degree in 1918. He continued his training on the surgical service at Hopkins under William Stewart Halsted.

During his year in the Hunterian Surgical Laboratory, Doctor Holman made his first independent study, "End-to-End Anastomosis of the Intestine by Presection Sutures, An Experimental Study." During his years as a surgical resident, he spent a year on the neurosurgical service of native Missourian, Walter Dandy, of Sedalia, whose "explosive outbursts at the operating table" he remembers. While he was chief resident at Hopkins from 1921 to 1923 one of Doctor Holman's assistant residents was still another fellow Missourian, W. F. Reinhoff of Columbia.

After five years and being chief resident at Hopkins, Holman left for a year's residency at The Peter Bent Brigham Hospital under neurosurgeon Harvey Cushing.

---

[*] Doctor Glass is in the private practice of surgery in Sedalia, Clinical Assistant Professor of Surgery at the University of Missouri and Attending Surgeon at Ellis Fischel State Cancer Hospital. At the present time, he is on active duty as Lieutenant Commander, USNR(MC), at the Naval Hospital, Camp Pendleton, Calif.

Doctor Holman thus had the opportunity to work closely with four prominent pioneers in modern scientific medicine: Sherrington, Osler, Halsted and Cushing. The influence of these pioneering scientists was reflected in his own career. Although he was an excellent clinical surgeon (he performed successfully one of the early abdominoperineal resections in California), his major interest and most important contributions were elucidating basic pathophysiologic changes. His demonstration of the mechanism of post-stenotic arterial dilatation and the hypervolemia associated with arteriovenous shunts are classics. To this day, they are used to help explain the mechanism of development of arteriosclerotic aneurysms and some of the postoperative problems associated with closure of intracardiac septal defects. In the 1920's Doctor Holman was working on familiar terms with blood volume studies. Thirty years passed before we journeyman-surgeons became interested in these "new" concepts.

Doctor Holman left Boston after one year at the Brigham and spent a year as Assistant Professor of Surgery under Elliott Cutler at Western Reserve in Cleveland. From there, he moved to Stanford University Medical School in San Francisco. In 1926, after one year as Associate Professor, Emile Holman was promoted to Professor and Executive Head of the Department of Surgery, Stanford University School of Medicine, a position he held until his retirement in 1955. The years at Stanford were Doctor Holman's most productive. A biblio-biography of these years could fill a book and still not do justice to his accomplishments. Innumerable honorary lectureships and many visiting professorships punctuated his career. In 1930, he was Visiting Professor at the Peiping Union Medical College in China and in 1951, he served as Acting Director of the Professional Surgical Unit at St. Bartholomew's Hospital, London, to name only two.

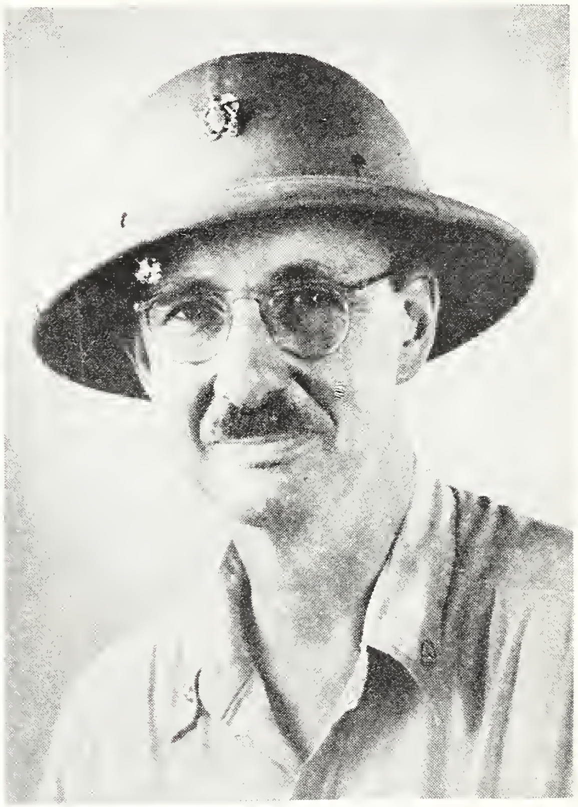
One episode in Holman's later life epitomized his vigor. In 1941, at the age of 51 he joined the Navy. In 1943, he volunteered for active duty in the South Pacific, leaving the security and stimulation of a full professorship. While he was functioning as a busy battlefield surgeon on Guadalcanal, he noticed the need of many of his associates to better understand the dynamics of pleuropulmonary injury. In order to help these men, he demonstrated important principles of surgical management on dogs purchased at exhorbitant prices from the natives with his own money. Having proposed new principles for the management of the wounded, Doctor Holman wished to put these principles to the acid test, which he was able to do by volunteering for duty at a hospital 500 yards from the front line on Peleliu.

Upon returning to Stanford, Holman continued his productive activity and, in 1949 and 1950, he made fundamental contributions to the pathophysiology and treatment of constrictive pericarditis.

His successful family life is but another example of his diverse talents and well-rounded personality. On Sept. 17, 1921, Doctor Holman married Ann Purdy, a Canadian girl whom he met when they both were attending Johns Hopkins Medical School. Doctor Purdy is now Clinical Professor Emeritus of Pediatric Cardiology at the Stanford University Medical School.

Their three sons are all successful physicians. One is a surgeon with the Kaiser Foundation, another heads the Department of Medicine at Stanford and the third runs the cardiopulmonary laboratory at San Francisco's Children's Hospital.

During a recent visit to San Francisco, the



Capt. Emile F. Holman, USNR(MC), Surgeon with the USMC during World War II.

author and his wife met Doctors Holman and Purdy in their home in order to gather information for this biographical sketch. During this brief visit, four full Professors of Surgery from outstanding universities around the world dropped in to pay homage to THE PROFESSOR, an unspoken tribute to a great surgeon, Emile Holman.

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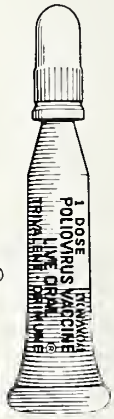

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Notes of interest from Here .... and There

Drs. Raymond A. Ritter, Jr. and **Carl F. Ritter,** sons of Dr. Raymond A. Ritter, Cape Girardeau, have been called to service in the war of Viet Nam. Dr. Raymond Ritter was ordered to Munich, Germany, to serve as an army orthopedic surgeon. Dr. Carl Ritter has reported to Luke Air Force Base near Phoenix, Ariz. Both are captains and graduates of Washington University School of Medicine.

Dr. J. M. Jung, Illmo, has reported for duty as a lieutenant commander in the United States Navy. He expects to be stationed in San Diego for his two-year tour of duty. Doctor Jung has been practicing medicine in the Illmo-Scott City area where he opened the Community Medical Center in 1960 with **Dr. Robert Laffoon,** who is now a missionary in Africa.

Dr. Charles R. Doyle, St. Louis, was presented the Cross of the Knights of St. Gregory by **Bishop Joseph Gottwald** at the St. Louis Cathedral recently. He was nominated for the Papal Award, one of the highest available to Catholic laymen, by the late **Joseph Cardinal Ritter.** Doctor Doyle is secretary-treasurer of the Missouri State Medical Foundation.

Dr. Oscar P. Hampton, Jr., M.D., St. Louis, will be the Saturday luncheon speaker at the First Biennial Symposium on the Management of Trauma and Disaster Medical Problems in Miami Beach on November 10-11. Doctor Hampton, who is chairman of the Committee on Trauma of the American College of Surgeons, will discuss "Observations on Care of the Wounded in Viet Nam."

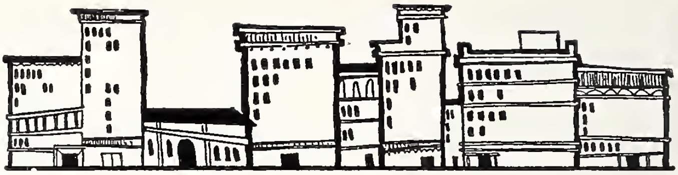
Dr. Byron E. Watts, Jefferson City, was elected president of the Missouri Division of the American Cancer Society at the Division's 21st annual meeting in October. He will serve a two-year term. **Dr. George E. Wakerlin,** Columbia, spoke on the cancer problem in the world today at the dinner meeting which closed the 1967 meeting.

Dr. George M. Ragsdale, Paris, and **Judge Ralph Nolen,** judge of the magistrate and probate courts, have been presented certificates of appreciation signed by **President Lyndon B. Johnson** for serving on the Selective Service Board in Monroe County for 25 years. Dr. Ragsdale is medical consultant and Judge Nolen is government appeal agent for the Board.

Dr. Rosendo A. Reyes, St. Louis, has begun practice in the Festus-Crystal City area as a general practitioner and obstetrician and has joined the medical staff of Jefferson Memorial Hospital.—**Dr. Edward E. Mardini** is now associated with **Drs. Jack Mullen** and **Van Taylor** in the practice of surgery in Bonne Terre. He returned from service in Viet Nam in July.

Dr. Robert N. Tindall has been named president of the medical staff of Deaconess Hospital in St. Louis. He succeeds **Dr. Robert K. Kurth.—Dr. Eugene N. Mitchell,** St. Louis, supervisor of general surgery and associate medical director of Homer G. Phillips Hospital since 1965, has been named medical director of the hospital.—**Dr. James Muelberger,** Kansas City, has been named physician for the Jackson County detention home and children's shelter. He succeeds **Dr. William B. Allen** who resigned to devote more time to his private practice and family.

From the Medical Schools



WASHINGTON UNIVERSITY

Dr. Robert B. Dodd

Dr. Robert B. Dodd, professor and head of Anesthesiology at Washington University School of Medicine was elected second vice-president of the American Society of Anesthesiologists at the final session of the House of Delegates on October 3 during the annual meeting of the Society.

Launching ceremonies for the McDonnell Medical Science building at the School of Medicine were held recently.

James S. McDonnell, chairman of the board, McDonnell Douglas Corporation, joined community and University officials in symbolically noting the start of construction of the $10 million, block-long, nine-story building. The McDonnell Family has pledged more than $4.7 million in memory of Mary Elizabeth Finney McDonnell. A United States Public Health Service grant is providing $4.3 million.

The first five floors will include administrative offices, modern teaching laboratories for medical students, research facilities, lecture halls, a book store and a cafeteria. The sixth floor will house machinery for ventilation, heating and air conditioning. The top three floors will be built as shell floors to provide for future expansion. Preclinical departments of anatomy, biological chemistry, microbiology, pharmacology and physiology will be housed in the new building.

The increased research-teaching facilities will answer a national need by enabling an enrollment growth from the present 350 medical students to 436.

UNIVERSITY OF MISSOURI

Dr. Hans O. Mauksch, dean of the College of Liberal Arts at Illinois Institute of Technology at Chicago, has been appointed professor of community health and medical practice and professor of sociology at the University of Missouri School of Medicine. The appointment becomes effective Feb. 1, 1968.

Dr. Hans O. Mauksch

Dr. Mauksch has been dean at I.I.T. since 1962. He holds both master's and doctor's degrees in sociology from the University of Chicago.

At the School of Medicine, Dr. Mauksch will be in charge of the program in human ecology and behavioral sciences for first year medical students. This course provides students with a broad picture of man and his environment and is presented by an interdepartmental faculty from the disciplines of physiology, genetics, sociology, anthropology, psychology and pediatrics. In the Sociology Department, Dr. Mauksch will be in charge of training programs in medical sociology and sociological research.

Dr. Merlyn C. Herrick, a specialist in education media, has joined the administrative staff of the School of Medicine as assistant to Dean William D. Mayer. He will work with the School's education committee in applying recent technological advances in education to the teaching of medical students.

The sixth annual Fall Faculty Forum of the School of Medicine was held recently with programs devoted to the changing role of the basic sciences in medical education and discussions on the impact of new educational technology on the teaching-learning process. One hundred seventy-five faculty members attended the session.

One of the innovations enabling medical education to meet the challenge of preparing today's students to practice tomorrow's medicine is the multidisciplinary laboratory. Now under construction, an addition to the Medical Sciences building will include 14 such laboratories. Seven 16-man labs for first year medical students will be installed on the sixth floor; seven more 16-man labs for second year students will be located on the seventh floor. The range of courses in each of the first two years of medical school will be concentrated here, with each student's laboratory area available to him 24 hours a day.

With greater emphasis on self-instruction through the application of educational technology, the teacher's role is changing from that of being a source of information to one of being the designer or engineer of the learning situation, faculty members were told. Similarly, the student's role changes from that of a note-taker and memorizer to active participant in the learning process.

In addition to Missouri faculty members who took part in discussions on new methods in medical education, guest speakers at the meeting were Drs. S. N. Postlethwait, professor of biology at Purdue University; Hans Popper, Dean of Academic Affairs and professor of pathology at Mount Sinai Hospital, New York City; Robert Olsen, chairman of the department of biochemistry at St. Louis University; Eric Fonkalsrud, assistant professor of surgery in the School of Medicine at UCLA; and Edwin F. Rosinski, deputy assistant secretary for health manpower, Department of Health, Education, and Welfare, Washington, D. C.

Dr. John A. Buesseler, professor of ophthalmology, has been appointed part-time consultant for biology and medicine on the staff of Argonne Universities Association. The organization of 26 midwestern universities encourages and conducts research in all branches of science.

ST. LOUIS UNIVERSITY

Sixteen promotions to the St. Louis University School of Medicine for the 1967-1968 academic year have been announced.

Drs. Calvin A. Richins, anatomy, and Louis L. Tureen, neurology, were named full professors.

Promoted to clinical professors were Drs. Joseph Hardy, gynecology and obstetrics; Thomas M. Mier, gynecology and obstetrics; and Edmund A. Smolik, surgery. Dr. Paul A. Young, anatomy, was named associate professor.

Promoted to assistant professors were Drs. Ray W. Burmeister, internal medicine; Adel A. El-Etr, surgery; and Maysie Hughes, pharmacology. Dr. Robert H. Ramsey, internal medicine, was promoted to assistant clinical professor.

New senior instructors are Drs. John E. Byrne, urology; Richard W. Entrup, internal medicine; Merle B. Herriford, urology; Joseph J. Naryka, urology; Walter R. Stafford, ophthalmology; and Manfred Thurmann, internal medicine.

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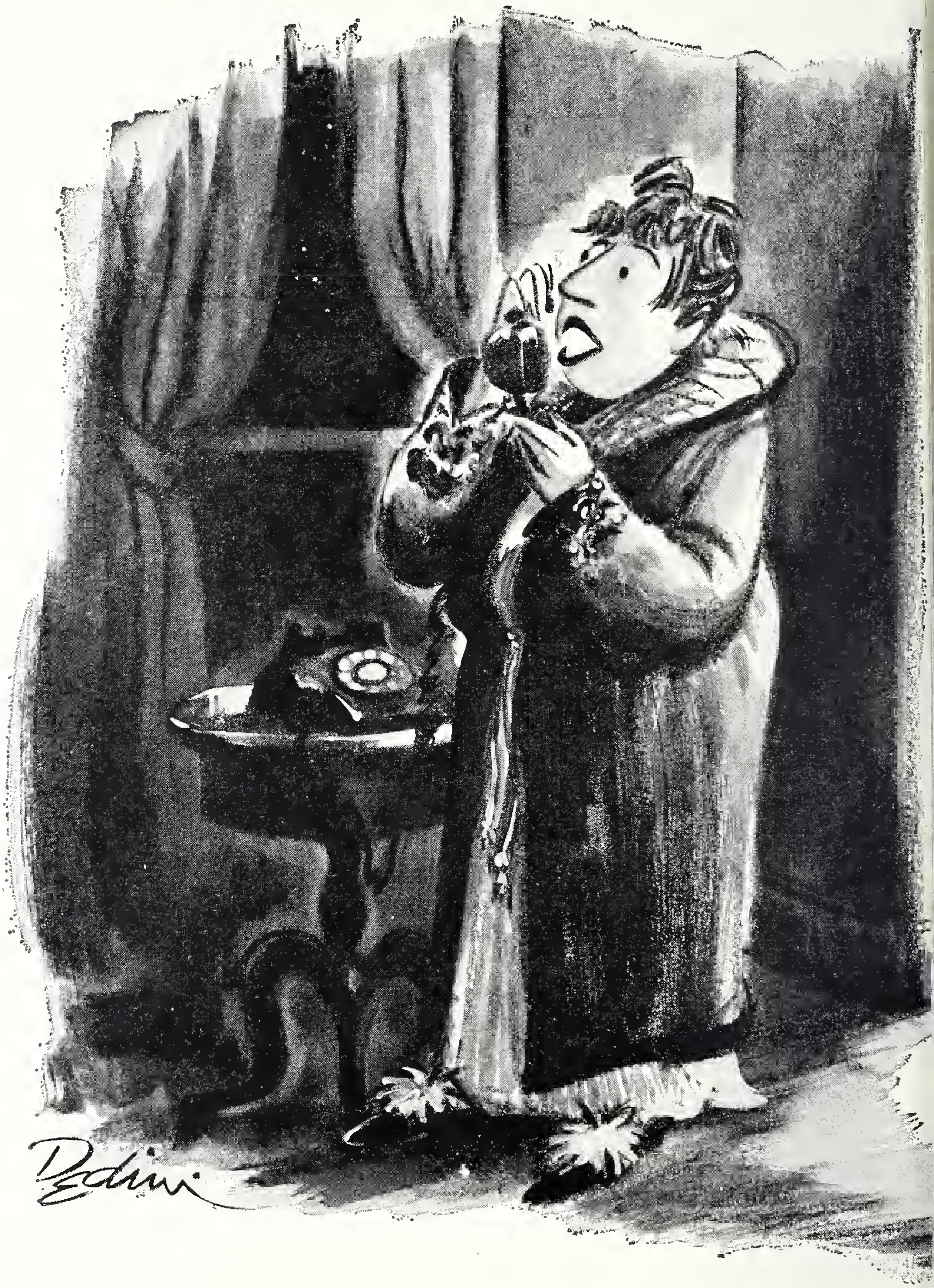

"George wants to know if it's okay to take his cold medicine now, Doctor, instead of seven o'clock?"

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CHARLES P. McGINTY, M.D., *Cape Girardeau*

Esophageal Hiatal Hernia: 150 Surgically Treated Cases

A Review

Surgical treatment of an esophageal hiatal hernia may become necessary because of pathological changes that occur secondary to the hernia. While the surgeon is operating within the abdominal cavity for some other lesion, he may elect to repair an esophageal hiatal hernia which is symptomatic. The author reviews his experiences with 150 such surgically treated cases. This paper was presented originally before the St. Luke's Hospital Centennial Celebration in St. Louis. Doctor McGinty is in the private practice of general surgery and Chief of Surgery at St. Francis Hospital.

During the past 40 years, thanks to improved radiological techniques and increasing awareness of the possibility of the diagnosis, hiatal hernia has become as frequent as duodenal ulcer, cholelithiasis and colonic diverticulosis as a recognized gastrointestinal lesion.[1-6] We find a hiatal hernia in more than 12% of our patients undergoing upper GI X-rays. Few organic structural defects are associated with more confusion, difference of opinion and complex factors.

Symptoms

The most frequent symptom, heartburn, is related to the fact that in the presence of a hiatal hernia, the effective one-way valve mechanisms (whatever they may be) at the gastroesophageal junction are lost.[7-9] Thus, acid-peptic juices produced in the stomach are regurgitated into the squamous epithelium-lined esophagus. Normally, the stomach is protected by its own mucin and the presence of food. The less well-protected esophageal mucosa becomes irritated by this acid-peptic mixture. Symptoms of heartburn may be felt quite high in the throat or in the low retrosternal area.

Complications

Complications such as esophagitis, stricture, ulcer or painful incarceration may occur.[10-14] Bleeding may be evident as a mild hypochromic anemia due to slow oozing from the esophagus or suprahiatal gastric pouch, or it may show up as frank hemorrhage with exsanguination.[15, 16]

Chronic pulmonary disease and, also, hoarseness can result from nocturnal regurgitation of gastric juices.[17-19]

This type of hernia can be confused with coronary artery disease and can even cause EKG changes.[20] There appears to be some association between hiatal hernia and gastroesophageal malignancy.[21, 22]

MEDICAL TREATMENT

Many symptomatic hernias respond well to a more or less strict medical program[23] consisting of:

(1) *Educating the patient* to understand his condition and teaching him to avoid aerophagia and excessive belching. He should arrange his meals so that he eats larger meals for breakfast and lunch, eats lightly at supper time and avoids eating at all after supper.

(2) *Physical measures* such as elevation of the head of the bed on six-inch blocks and avoidance of stooping postures and heavy lifting. Corsets and other binding clothing should be avoided.

(3) *Dietary changes* to produce weight loss in the cases of obesity and, of course, a bland, easily digestible diet.

(4) The use of *antacids and anticholinergic* drugs may or may not be beneficial.

All of these measures are pallative in nature and do not cure the hernia itself, even though they frequently do relieve the symptoms and help avoid complications.

SURGICAL TREATMENT

There were 97 women and 53 men in our series of repairs. Age distribution was similar to that seen in other series.

Indications for surgical treatment are:

(1) Any one of the six major complications previously mentioned.

(2) Medical failures and patients who tire of such rigid programs are candidates for surgical treatment. (We obtain our poorest results in the latter group.)

(3) Acute, painful incarceration. (Present in five of our patients.)

(4) The presence of a *symptomatic* hiatal hernia when one enters the abdomen for some other reason is a good indication for surgical repair of the hiatus. (A symptomatic hernia was present along with another surgical lesion in 67 of our patients. There were 35 biliary lesions and 22 peptic ulcers. Seven of our patients had both. Bronchiectasis of the left lower lobe was present in one woman. There were malignant tumors in the suprahiatal pouch in two. In our surgical series, at least 20 of the patients were suffering from hemorrhage or severe anemia. Eleven of these had a concomitant ulcer or tumor.)

TABLE 1

APPROACH IN SURGICAL REPAIR OF HIATAL HERNIA

I. *Abdominal Route*		
Repair only	40	
Repair and vagotomy and pyloroplasty	68	
Repair and pyloroplasty only	2	
Repair and vagotomy and gastrojejunostomy	5	
Repair and vagotomy and gastric resection	5	
Repair and vagotomy only	1	
Gastric resection	2	
Esophago-gastrectomy	1	
Gastropexy only	1	
Total		125
II. *Thoracic Route*		
Repair only	17	
Repair and vagotomy and gastrojejunostomy	2	
Repair and gastrojejunostomy only (counter incision in Diaphragm 7)	3	
Esophago-gastrectomy (radical)	1	
Esophago-gastrectomy and gastrojejunostomy	1	
Total		24
III. *Abdomino Thoracic Route*		
Repair and gastric resection	1	
Total		1
Grand total		150

We made a *transabdominal approach* in 125 of our patients (Table 1). Usually, this approach was chosen because of the presence of a concomitant abdominal lesion. We did a "repair only" in 40 cases. A "repair plus pyloroplasty" was done twice. "Repair, vagotomy and pyloroplasty," suggested by Berman[24, 25] and others, was done in 68 instances. Let me mention here that we have tried a number of types of pyloroplasty. Earlier, the Heineke-Mikulicz and the Finney-Von Haberer "U" shaped pyloroplasties were the most popular. However, in most cases now, we simply excise the anterior third of the pyloris and do a simple one-layer silk closure of the stomach back to the duodenum. This seems to give excellent results. We performed "repair with vagotomy and gastrojejunostomy" five times. "Repair, vagotomy and gastric resection" was done five times. "Repair and vagotomy only" was done in one woman who died. "Gastric resection only" was performed as treatment for two of the hiatal hernias. "Esophagogastrectomy with pyloroplasty" was done in one case in which a leiomyosarcoma was present in the suprahiatal pouch. We were able to do this through the abdominal incision along with splenectomy and node dissection. A "simple gastropexy" was tried as treatment in one case.

We made use of a *transthoracic incision* in 25 of the patients. This decision was predicated on the patient's body habitus or, in some instances, the presence of considerable shortening of the esophagus and periesophagitis. Of these, 17 had a "repair only." Two underwent "repair with vagotomy and trans-diaphragmatic gastrojejunostomy." Earlier in our series, we made a counter incision in the diaphragm in seven cases.[26] We have since abandoned this method for the most part. When doing a transthoracic repair, we simply repair the hernia through the hiatus itself after the methods described separately by Humphreys in 1957,[27] Keshishian in 1964[28] and Harter in March of 1966.[29] We feel that the counter incision in the diaphragm not only is unnecessary but may be deleterious. We performed a "radical esophagogastrectomy" for adenocarcinoma in the hiatal pouch at the esophagogastric junction. This patient is still alive after six years without evidence of disease. One "esophagogastrectomy and gastrojejunostomy" was performed in a patient with a severe lower esophageal stricture. Earlier in our series, we did a gastric resection through the abdomen and then made a thoracic extension to repair the hiatus. Of course, this was unnecessary and we would not recommend this method except in unusual circumstances.

Associated Operations

Frequently, another intra-abdominal procedure was done (Table 2). Thirty-five biliary procedures, 35 appendectomies, eight other herniorrhaphies and three splenectomies were done. Two of the splenectomies were done because of a tear in the spleen. The other was done as part of a radical resection for tumor. Bowel resections were done four times. A tube gastrostomy complemented the procedure in 80 instances.

A few thoracic lesions also were treated. Lower lobectomy was done once. An esophageal diverticulum was resected in one patient. Splenectomy was done twice, once because the spleen was torn and once as part of a tumor resection.

TABLE 2

Associated Operations at the Time of Hiatal Hernia Repair

*Associated Abdominal Operations**		
Biliary Procedures	35	
Appendectomy	35	
Other Herniorrhaphies	8	
Splenectomy	3	
Bowel Resections	4	
Total		85
Associated Thoracic Operations		
Left lower lobectomy	1	
Esophageal diverticulectomy	1	
Splenectomy	2	
Total		4
Grand total		89

* Eighty gastrostomies were done, but are not listed as separate operations.

Vagotomy

The decision to do a vagotomy was based on the presence of a peptic ulcer in some 20 instances. The other 60 vagotomies were indicated because of either proven gastric hypersecretion or clincial evidence of severe peptic esophagitis. This frequently facilitated the repair, especially in "acquired shortened esophagus" cases.

Results

It is difficult to evaluate results of any operation, but especially this particular procedure. There may be a coexisting ulcer or the patient may have had a very symptomatic gall-bladder removed. Also, the neurotic personality of many patients jeopardizes an adequate evaluation of results. Prejudice of the surgeon, the "placebo effect" of the surgery and the presence of undiagnosed or misdiagnosed disease, along with the absence of adequate follow-up, must be considered. Nevertheless, we have made an effort to evaluate our results (Table 3). We felt that patients having no symptoms postoperatively could be classified as excellent. We had 59 such patients. Those who complained of a few symptoms, perhaps related to the hernia or the repair of the hiatus, were 64 in number. We considered 14 patients as having only a fair result, because they required further medical treatment. Several of these patients are quite neurotic and are under supportive care. (An operation rarely cures a

TABLE 3

Results of Surgical Treatment of Hiatal Hernias

	Number	*%*
Excellent—No symptoms	59	39
Good—Few symptoms	64	43
Fair—Further medical treatment	14	10
Poor—Required further surgery (Recurrences: 4)	6	4
Operative Deaths	3	2
Lost to Follow-up	4	2
Total	150	100%

neurosis.) Poor results were present in six patients. Four of these were proved recurrences. The other two poor results were due to malfunctioning pyloroplasties. There were three operative deaths and we lost four patients to follow-up.

Analysis of our poor results showed that in one of our thoracic repairs the hernia recurred. Three of our abdominal repairs showed recurrence. The latter were in obese women.

In order to manage these patients having poor results, we reoperated upon them. A gastric resection was done on one of the malfunctioning pyloroplasty cases. A gastrojejunostomy to improve the emptying of the stomach was done on the other. We did a re-repair of the four recurrences. None of these four has since recurred. One of the patients in the group first had a transthoracic repair, then a gastrojejunostomy and then a re-repair through the abdominal route accompanied by vagotomy before symptoms were relieved. This brought our total to seven additional operations in the six patients.

SURGICAL COMPLICATIONS

A number of complications occurred (Table 4). Disruption of the diaphragm occurred where there had been a large counter incision with advancement of the esophagus in a case of a severe periesophagitis with "acquired shortening" of the esophagus. This patient was taken immediately to the operating room on the first postoperative day and the defect was reclosed. This complication has been reported by others.[30, 31] As mentioned previously, we inadvertently tore the spleen three times. We had one case involving bowel obstruction, two instances of definite pulmonary embolus, one case of thrombophlebitis, in addition to this, and three wound infections. In the late category, we had 15 patients we would classify as having a "vagotomy syndrome."[32] Ventral hernias occurred in three patients. A total of 31 complications were noted.

TABLE 4

SURGICAL COMPLICATIONS IN 150 HIATAL HERNIA REPAIRS

I. *Early*	
Disruption of diaphragm	1
Torn Spleen	3
Bowel obstruction	1
Pulmonary embolus*	2
Thrombophlebitis	1
Wound infection	3
Atelectasis*	1
Myocardial infarct*	1
II. *Late*	
Vagotomy syndrome**	15
Ventral Hernia	3
Total	31

*Three PO deaths.
**Out of 79 vagotomies followed.

OPERATIVE DEATHS

Three deaths were associated with surgery. One man died following massive pulmonary infarct, four days after transthoracic repair of a hiatal hernia. At autopsy, he also was found to have a duodenal ulcer. He had been vomiting blood in massive quantities. The second patient died of severe atelectasis and pneumonitis on her fifth postoperative day. This was a short, obese woman who was very difficult to manage. She also had arteriosclerotic heart disease. Major upper gastrointestinal hemorrhage had been occurring for three days at the time of surgery. She was found to have a bleeding gastric ulcer. The third patient also was a short, obese woman with severe arteriosclerotic heart disease and was having massive hemorrhage. She died on her first postoperative day from a proven myocardial infarction. An autopsy showed an ulcer in the suprahiatal pouch.

DISCUSSION

We tried many approaches and techniques. We used various abdominal and thoracic incisions and combinations of both. In some instances, we excised the xyphoid process. Occasionally, we mobilized the left lobe of the liver. Several types of vagotomies, including five "selective vagotomies," were done.[33-35] We did a transthoracic repair both with and without diaphragmatic incisions. In a number of instances, we sutured the left margin of the esophagus to the fundus of the stomach to increase the angle of His.[36] We re-repaired all of our recurrences that we were able to find on follow-up. We did not order X-ray studies very often on asymptomatic patients. Poor or fair results were often related to personality problems. Two strictures occurred postoperatively, both of which have responded to simple dilation. We would like to emphasize that all deaths occurred in people with active, massive bleeding. Obesity seems to be a factor in the development of recurrences.

There are several technical factors worth mentioning. When performing a transabdominal repair, it is necessary to simply reapproximate the fibers of the right crus of the diaphragm posteriorly until the esophagus fits snugly in the hiatus (after the principles of Allison).[37, 38] Then, one should suture the tissue at the esophagogastric junction to the right crus of the diaphragm with two or three 00 silk sutures to anchor it in place about one and one-half inches below the diaphragm. This is preferable to any other procedure we have found.

It is important to do a tube gastrostomy to keep the stomach decompressed. Also, by fixing the anterior wall of the stomach to the anterior parietal peritoneum, we have formed a type of gastropexy.[39, 40]

Severance of the vagus nerves makes it much easier to free up a fixed esophagus to get increased length for reduction below the hiatus.

SUMMARY

Of the several hundred patients with hiatal hernia encountered in our locality over the past 11 years, we have treated 150 surgically. A review of these cases suggests that most of the patients were satisfactorily managed in this way. Many of the repairs were augmented by a vagotomy and gastric emptying procedure. A number of patients had other surgical conditions treated concomitantly. A number of complications occurred, and we had three postoperative deaths.

More patients suffering from the complications of hiatal hernia should be allowed the benefit of surgical treatment. The type of surgical treatment should be tailored to the individual patient.

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PHILIP C. ANDERSON, M.D., ***Columbia***

Cold Urticaria

Case Report

EPISODES OF COLD URTICARIA may discomfort the patient, disrupt his occupation or even endanger his life. Three major types are known: cold urticaria with cryohemoglobinemia, cold urticaria with cryoglobulinemia and the most common type, which is the subject of this paper, a form without abnormalities of blood proteins or serology termed "essential cold urticaria." The essential type has two variants: a very rare hereditary form present from childhood and the acquired form, which is not familial. Treatment of the acquired form of cold urticaria for this patient was successful, and he was able to resume his occupation. The diagnostic steps are reviewed and the methods of choosing the proper medications are discussed.

CASE REPORT

Since 1958, a 52-year-old man operated a frozen food locker. In 1965, he began to have sustained swelling of his hands which kept him from working. Eventually, after a few minutes in the freezer, his arms, hands, eyelids and nose would swell and his voice would become hoarse. On several occasions, he had transient coughing with shortness of breath. By July, swallowing ice cream or ice water would cause immediate swelling of his throat and mouth, and he would have nausea, dysphagia and diarrhea with abdominal pain. Finally, even the cool air of the evening would cause flushing, itching and swelling of the skin, and he felt ill during episodes of urticaria. When average doses of Benadryl[*] and Chlortrimeton[†] were taken without benefit and attacks of cold urticaria became more severe, he was sent to the University of Missouri Medical Center for evaluation.

This hard-working man was in good health, generally. He had hay fever annually in the fall, but there were no acute illnesses prior to the onset of his urticaria. Except for mild pulmonary emphysema, he appeared entirely well when examined. The following studies did not add useful information to the diagnosis: complete blood count, eosinophil count, leukocyte alkaline phosphatase, serum electrophoresis, plasma fibrinogen, serum creatinine, serum acid and alkaline phosphatase, bleeding and clotting time, a series of sedimentation rates, serum glutamic oxaloacetic transaminase, rheumatoid agglutinin, serum protein bound iodine, serum cholesterol, serum calcium and phosphate and serologic test for syphilis.

Useful information developed from two types of tests: first, from clinical tests on the patient's skin with cold water and, secondly, tests on the patient's serum done at low temperatures. By causing the urticaria to appear under reproducible conditions, I was able to confirm the diagnosis and to evaluate the effectiveness of various drugs. A large test tube filled with water at 2 C to 10 C was held against the skin for five, 15, 30, 60, 90, 120 and 150 seconds producing large urticaria on every trial. In this patient, applications for five to 90 seconds produced progressively larger urticaria, but cold applied longer than 90 seconds did not increase the reaction. A well-defined urticaria always resulted from a 15-second application which was used as the standard test. In all normal persons, a cold-testing produces blanching followed promptly by transient erythema without any edema. In the cold-sensitive patient, the area of contact with the cold tube was blanched ivory-white for 10 to 15 seconds and then the area became red, followed by severe edema into the skin which persisted for one to two hours. This abnormal reaction to cold could be abolished by having the patient immerse one arm in water heated to 100 F for about ten minutes before testing, or, by immersing the arm in warm water immediately after the cold tube was removed while the skin was still blanched. Vigorous rubbing of the skin with a towel for 20 seconds before testing also would abolish the urticaria. Infiltration of the skin with 1 per cent solution of procaine reduced the urticarial response, but so did saline solution. A distant nerve block would not prevent the urticarial response. This effect of nonspecific trauma to the skin in reducing cold response may indicate only that the degranulation of mast cells will prevent urticaria. Tests with small doses of acetylcholine, mecholyl, histamine phosphate, nicotinic acid and epinephrine in the skin were normal.

Two important differential considerations were solved by special tests with serum in the cold. These tests were:

For cryoglobulin: Draw blood and allow the clot to form at 36 C to 37 C. Set the clear serum at zero to 5 C overnight and, if precipitate or gell is visible at the bottom of the tube, prove that it is a cryoprecipitate by redissolving by warming. If cryoglobulins are present, special studies are needed. Cryoglobulins are not present in essential cold urticaria.

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[*] Benadryl is the trademark for diphenhydramine.
[†] Chlortrimeton is the trademark for chlorpheniramine.

For cold hemolysins: Fasten a wide rubber band about the finger as a tourniquet. Immerse the finger for 45 to 60 seconds in ice water. Warm the finger again, puncture the skin, and draw off blood in a microhematocrit tube. After spinning the red cells down, the serum should be a pale straw color if it is normal and pink to blood-red if hemolysins are present. Cold hemolysins are not found in essential cold urticaria.

Various antihistamine medications were given before testing with cold to select the best treatment. The patient was given 100 mgm of Benadryl orally and 50 mgm intramuscularly one hour before testing with cold. The urticarial reaction was not modified, as might be expected. However, when either 8 mgm of cyroheptadine (Periactin) or 100 mgm of hydroxysine (Vistaril) was given, no urticaria could be produced. Steroids and nicotinic acid did not modify the response. The tests with drugs were done on alternate days and by the standard skin testing technique. Blood eosinophilic leukocytes were not increased during cold testing. Cold sensitivity could not be transferred passively to the patient's wife as tested at three, 12 and 24 hours.

While taking cyroheptadine 4 mg four times a day, the patient had complete relief of symptoms, but only for a few weeks. Gradually he again developed small urticaria on his fingertips, but these occur now only after working in the cold room for more than 20 minutes. He has no respiratory symptoms and feels well. Desensitization to cold did not help him. The benefit of treatment is that he can continue his occupation without impairment.

DISCUSSION

Cold urticaria was described over a century ago and has been studied recently.[1] The disorder is found equally in adult men and women, but it is rare in children. A sudden drop in environmental temperatures, such as a cool breeze, may trigger the reaction. Temperatures below 10 C are usually considered necessary to evoke the reaction, but any rapid cooling may suffice. Usually, ice water tubes will produce the most dramatic urticaria. Because freezing temperatures may inhibit the urticaria in rare instances,[1] testing at 5 C to 10 C should be done in every case. Usually the disorder is mild and these patients retain good health, but symptoms and signs may appear which are more severe than those experienced by my patient.[2] In addition to the problems noted, cold stimulation may produce severe flushing, hyperhidrosis, swelling of the eyelids, sneezing, chest pain, gastric hyperacidity, abdominal pain, headache, syncope and severe malaise or prostration. Cold urticaria may appear suddenly.[3] Individuals diving into cold water have developed massive urticaria and drowned, probably due to syncope. Most patients have only the mildest cutaneous reactions to cold and some forms of cold sensitivity could be considered occult as suggested by Juhlin and Shelley.[1]

A review of the problem of urticaria is presented with guides to diagnosis and relation of success with treatment. Doctor Anderson is from the Section of Dermatology, Department of Medicine, University of Missouri Medical Center.

Most often, it is not possible to account for the onset of cold urticaria, but occasionally the condition seems to be brought on by serum sickness, sensitivities to drugs, foods, infections or pregnancy. About 30% to 50% of persons with cold urticaria have the atopic diathesis, including pollenosis, asthma or atopic eczema in childhood and the associated familial diseases. The prognosis is good and, over many years, most patients gradually will lose their cold sensitivity.

In this disorder, histamine is released in large quantities during cold stimulation, but histamine alone does not account for all the manifestations of the disease. Other mediators such as acetylcholine and kinens may be involved. Although a certain number of these patients, probably less than one-third have some factor in their serum which can be transferred to the skin of other individuals and cause cold urticaria on proper testing, there is no evidence at this time that an antigen-antibody reaction is required for the release of histamine or to produce the symptoms of cold urticaria. Cold urticaria need not be considered an allergy in the usual sense that an antibody is linked directly to the production of the disease. The material in the passive transfer reaction may be an enzyme, a mediator of vascular permeability or an antibody, but this key material has not been isolated or identified as yet. No abnormality of antibodies could be found in this patient.

The usual treatment for essential cold urticaria is to use desensitization to cold by gradually increasing the patient's exposure to cool water and by slowly lowering the temperature of the water. This method is not often successful in my experience. Large doses of antihistamine medications

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SAMUEL D. SOULE, M.D., ***St. Louis***

Proteolytic Enzymes

THE PANCREAS secretes enzymes which are capable of digesting protein, starch and fat. The proteolytic enzymes as they occur in the pancreatic tissue and as obtained from fresh pancreatic juice possess no proteolytic activity. In this state, they are known as zymogens. The extensive work of Kunitz and Northrup[1] demonstrated that two zymogens, trypsinogen and chymotrypsinogen, lead to the proteolytically active enzymes, trypsin and chymotrypsin, which have been isolated and obtained in crystalline form. It is not within the province of this discussion to delve into the chemistry of the proteolytic enzymes other than to note that they have been isolated and that many of their properties have been determined.[2]

A brief view of the pharmacology of the trypsin/chymotrypsin complex notes that when given parenterally to normal and adrenalectomized animals, the proteolytic enzymes inhibit the edema induced by injection of egg white, kaolin, yeast filtrate or dextran.[3-6] Inhibition of inflammatory responses due to burns also has been demonstrated.[7] Recovery from the acute inflammation of the nictitating membrane of the rabbit eye induced by mustard oil is improved by trypsin and by chymotrypsin.[8] The anti-inflammatory effect of proteolytic enzymes can be quantitated by measuring the degree of inhibition of edema due to burns inflicted on the foot of the rabbit.[9] In studies with the granuloma pouch in rats, oral administration of the enzymes decreased pouch exudate by 50% to 58%.[10] Allaben and co-workers[11] studied the effect of chymotrypsin in inhibiting the edema produced by crush injury to the monkey forearm. Intramuscular administration twice daily for one to four days reduced the degree of edema and results were statistically significant. Studies have shown that absorption of the enzymes occurs from the gastro-intestinal tract[12-14] and that increased levels of blood esterase follow their oral administration in both animal and man.[15-18] The inflammation caused by artificial burns in humans is reduced by the administration of Chymoral®.*

With this background of the chemistry and pharmacology of proteolytic enzymes, it has been natural to investigate the value of these drugs in the day-to-day management of clinical problems in medical practice.

Thus, there is a growing bibliography concerned with their effects in inhibiting inflammation, erythema and co-incidental pain in burns, in traumatic surgery, in elective orthopedic surgery and in plastic surgery.

Our own work with these agents falls into three categories. In our obstetrical practice, most of our patients are delivered over an episiotomy. Whether an episiotomy be mediolateral or midline, there is quite uniformly a certain amount of edema and, often, pain. Although the swelling and discomfort are seldom of serious import, alleviation of these symptoms adds greatly to patient comfort. The painful swollen perineum is due basically to tissue trauma—trauma of the forces of labor and trauma of incision and repair.

The pharmacology of proteolytic enzymes and the clinical results obtained in other surgical modalities would lead us to anticipate beneficial value in post-episiotomy discomfort. Bare and Fine administered oral proteolytic enzyme before amniotomy for induction of labor. Local pain, pain on ambulation and perineal edema were decreased. Their series was small, however, and they pointed out the need for further studies in natural labor. Bumgardner and Zatuchni noted similar results when the medication was begun immediately postpartum.

Our own observations evaluate the efficacy of trypsin/chymotrypsin (Chymoral) in a series of 70 primipara and 73 multiparous women in whom a mediolateral episiotomy had been done. An additional number were deleted from the *statistical* study because of midline incisions, lacerations or other factors which would not make the data suitable for statistical comparison.

Chymoral® was administered in a randomized, double-blind fashion. On admission to the labor room, the patient swallowed six Chymoral® tablets. Following delivery, two tablets were taken four times daily for five days or for the duration of her hospital stay if it were less. The following data were obtained:

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* Chymoral® was supplied by L. J. Klotz, M.D., Ph.D., of the Armour Pharmaceutical Company.

Antepartum: Age, parity, duration of labor, type of episiotomy.

Post-partum: The same staff nurses noted and evaluated pain at rest, sitting and ambulation; local edema, erythema and ecchymosis. When necessary, analgesics, local medications, sitz baths, etc. were not withheld. The procedure was designed to evaluate the efficacy of oral proteolytic enzyme administration under common clinical circumstance. The code was not broken during the study so that pending statistical analysis, neither the obstetrician, nurse nor patient had knowledge that the medication was enzyme or placebo.

When the code was broken, it was found that 111 patients had received the test drug and 93 had received placebo medication. As mentioned, 61 patients were not used in the analysis because of midline incisions, etc. and the number in each of these categories was too small to permit statistical analysis.

When the 143 patients who had mediolateral episiotomies were analyzed, via the computer, the following observations were noted:

1. The severity of local perineal edema is primarily related to the duration of labor. When labor lasted less than eight hours, the degree of edema was apt to be statistically insignificant. However, when labor lasted more than eight hours, proteolytic enzyme administration was significant in the reduction of edema.

2. Furthermore, the drug proved to be superior in the inhibition of erythema and in decreasing pain on sitting.

3. In 28 patients less than 21 years old, moderate or severe pain on sitting was experienced less than half as often in Chymoral treated patients.

4. The drug was well tolerated—no side effects could be ascribed to drug administeration.

Under the conditions present in this study, we were able to observe certain symptoms in post-episiotomy patients with sufficient accuracy and reproducibility to permit differentiation between drug- and placebo-treated patients on a statistically significant basis. Edema, pain on sitting and on ambulation and ecchymosis proved to be suitable criteria in patients who were in labor for more than eight hours. It is important to note that valid comparisons of drug and placebo, therefore, must be based on data which provide enough material to permit statistical analysis. A small group of patients or failure to consider many variables may negate results. For example, our statistics did not become significant until the factor involving eight hours of labor was ascertained.

A report of the results of a study to evaluate an oral proteolytic enzyme as an aid in relieving pain and edema in 204 episiotomy patients. Under the conditions present, the author was able to observe certain symptoms in post-episiotomy patients with sufficient accuracy to permit differentiation between drug- and placebo-treated patients on a statistically significant basis. This paper was presented originally at the 1967 Annual Meeting of the Michigan Academy of General Practice. Doctor Soule is from the Department of Obstetrics and Gynecology at the Jewish Hospital.

It was found that Chymoral was effective in reducing post-partum edema, ecchymosis and pain on sitting in these patients.

Pain on *ambulation* in multiparous patients was also reduced by Chymoral as was pain on *sitting in the young primiparous* patients. It has been suggested that a loss of elasticity of supporting tissues in the pelvis leads to a more severe and, thus, more readily evaulated effect, in the multiparous patient, while more severe but not readily detectable tissue trauma may occur in the young primiparous patient.

It is to be emphasized that careful grading of symptoms is necessary in a study of this type in order to achieve significant valid differentiation of drug and placebo effect.

Others have provided confirmatory evidence. Thus, Schmitz and Pavlic[19] evaluated the same drug used in our own study and reported more rapid subsidence of edema with less pain on ambulation in the drug treated group as compared with placebo. Unfortunately, the patients were not categorized as to parity or duration of labor.

Bumgardner and Zatuchni[20] evaluated chymotrypsin and found that it provided substantial relief of pain at the episiotomy site secondary to the reduction of edema and inflammation.

SUMMARY

A preliminary randomized, double-blind study of the value of an oral proteolytic enzyme to aid

in relieving pain and edema has been carried out in 204 episiotomy patients. The drug was given at a dosage of six tablets on admission. After delivery, two tablets were given four times daily for five days or for the duration of the hospital stay.

Of the post-partum symptoms evaluated, it was apparent that pain on sitting, pain on ambulation and perineal edema and ecchymosis could be evaluated with sufficient accuracy to serve as a basis of therapeutic efficiency.

On this basis, Chymoral proved to be an effective drug in reducing edema during the three post-partum days when it is usually most marked. Pain and ecchymosis also were reduced. All findings were statistically significant. The experimental design included only patients with mediolateral episiotomy.

There was complete absence of side effects which could be ascribed to the drug.

In conclusion, the ultimate proof of any clinical research program lies in what the observer does once the project is completed. In our office, we continue to give proteolytic enzymes to those women in whom we anticipate at least eight hours of labor.

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Cold Urticaria (Cont'd)

usually will relieve the discomfort and often modify the disease permanently as seen in this case. Selecting the most suitable antihistamine medication by actual trials with cold testing is a useful technique. This patient had prompt relief and, even when the medication is not used, the disease persists in a milder form which does not keep him from working.

Summary

A threatening problem involving generalized edema and large urticaria of the skin and upper airway proved to be due to the essential type of cold urticaria. After diagnostic studies, trials of different drugs by cold testing led to a suitable choice and of antihistamine medication after apparent failure with this treatment.

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Natural History of the Hypertensive Patient

A Review

Knowledge of the natural history of the hypertensive patient is important to practicing physicians since antihypertensive drugs and other therapies now available are capable of modifying favorably the natural histories of many hypertensive patients. The subject may be divided conveniently into the following headings which are considered successively in this presentation: definitions; prevalence; factors related to blood pressure and hypertension (heredity, race, age, sex, circulatory reactivity, psychologic traits and body weight); casual, resting and basal blood pressures; age at onset; duration of life; uncomplicated hypertensive phase; complications; causes of death; recent reported reductions in mortality; and the future.

Definitions

Hypertension is defined most simply as a sustained increase in arterial blood pressure above the limits of normal. Hypertension is a sign of disease and not itself a disease. The World Health Organization (WHO) defines an ordinary or casual blood pressure reading equal to or greater than 160/95 mm Hg as hypertension, a reading less than 140/90 as normontension and a reading in between as borderline hypertension.[1] Differentiation of hypertension from normotension is sometimes difficult, may require consideration of other factors than blood pressure, eg, age, and may necessitate observation over a period of time.

Essential or primary hypertension (hypertensive vascular disease) is a disease or group of diseases characterized by hypertension of unknown etiology or cause. It is by far the most common form of hypertensive disease, probably accounting for 90% of patients with hypertension. The natural history of the patient with essential or primary hypertension is the subject of this manuscript. The remaining 10% of hypertensive patients have hypertensions of known, even though frequently incompletely understood, causes. These so-called secondary hypertensions may result from glomerulonephritis, pyelonephritis, renal artery changes, toxemias of pregnancy, Cushing's disease, aldosteronism, pheochromocytoma, coarctation of the aorta or certain lesions of the central nervous system. Five percent of hypertensive patients, either from the onset or at any time during the course of their disease, develop malignant hypertension which is characterized by renal failure, papilledema and arteriolonecrosis and is usually fatal in one to two years or less if untreated.

Prevalence

According to the 1960-1962 National Health Survey of the USPHS, hypertensions and hypertensive heart disease constitute the most prevalent cardiovascular diseases in the United States, although atherosclerosis would undoubtedly be the most prevalent cardiovascular disease if a satisfactory method were available for detection of early atherosclerotic lesions. The National Health Survey found that 10.6 million men and women have definite hypertensive heart disease, 4.7 million suspect hypertensive heart disease and 6.9 million have definite hypertension without heart disease. Definite hypertensive heart disease was considered to be present when the average of three casual blood pressures at the time of examination equaled or exceeded 160/95 and there was ECG and/or x-ray evidence of left ventricular hypertrophy or cardiac enlargement. Suspect hypertensive heart disease was considered present when the casual blood pressure showed borderline hypertension (140/90-160/95) and there was ECG and/or x-ray evidence of left ventricular hypertrophy or cardiac enlargement.[2]

Related Factors

Heredity. A number of studies have shown a higher prevalence of hypertension among close relatives of hypertensive patients than among relatives of normotensives, and there is general agreement that genetic mechanisms, as distinct from environmental factors, are involved. Thus a study of the relatives of medical students at The Johns Hopkins School of Medicine showed that the highest percentage of hypertensives occurred among the daughters of two hypertensive parents (20.7%), an intermediate precentage among the daughters of parents one of whom was hypertensive (13%) and the least (4.5%) among the daughters of non-hypertensive parents. The differences among the sons were less pronounced (11.0%, 10.0% and 7.9%, respectively). The genetic mechanisms are not known, although they are probably multifactorial.[3]

Race. As shown by the 1960-1962 National Health Survey, definite hypertensive heart disease was almost three times as frequent in adult Negro Americans (21%) as in adult Caucasian Americans (8%).[2]

Age. A gradual increase in arterial blood pressure with age is commonly found in population studies, with the systolic pressure rising somewhat more than the diastolic. Thus, the average diastolic pressure gradually increased from 76 mm Hg in American men 25 to 29 years of age to 85 mm Hg at 60 to 64 years in one study, and the systolic pressure from 122 to 146. However, an increase in blood pressure with age does not occur in all individuals. Thus in another study which followed American men for 30 years, two-thirds showed a gradual increase in diastolic pressure from 72 mm Hg to 85 mm Hg, whereas one-third of the men showed no significant change in diastolic pressure.[4] The reasons for this difference are not known but well worthy of study. Moreover, a study of men belonging to low income groups in India showed no increase in systolic and diastolic pressures with age.[5]

Sex. In general, the average blood pressures of men slightly exceed those of women until age 45 to 50, after which the reverse is true.

Hypertensive heart disease and hypertension occur more frequently in women than in men. Thus, the National Health Survey of 1960-1962 reported 12.2 million women and 10.0 million men with definite and suspect hypertensive heart disease and definite hypertension without heart disease in the United States.

Circulatory Hyper-reactivity. Several studies have shown that transient increases in blood pressure and/or heart rate at annual physical examination are associated with increased probability of essential hypertension later in life and increased risk of disability and death from cardiovascular disease. Thus a study of 23,000 army officers over a ten year period showed a hypertension rate of 2.5 per 1,000 when neither sign was present, 8.5 per 1,000 when either was present and 19 per 1,000 when both were present.[6]

Transient increases in blood pressure and transient tachycardia are manifestations of circulatory hyper-reactivity under stress. The cold pressor and breath-holding tests for demonstrating circulatory hyper-reactivity have long been proposed as predictors of hypertension. However, at present there is insufficient agreement among investigators as to whether normotensives who are "hyper-reactors" to these tests are more likely to develop hypertension than "normoreactors."[7] Even the originator of the cold pressor test found that only 54% of hyper-reactors later developed hypertension, whereas 17% of normo-reactors developed hypertension.[8]

Psychologic Traits. Russian medical scientists following the lead of Pavlov have emphasized a role for repeated and/or chronic emotional stress in the development of essential hypertension[9] and other investigators in the psychosomatics field have proposed a role for emotional stress in the genesis of essential hypertension in some patients. By and large, however, attempts to relate the development of hypertension to certain psychologic traits have not been successful thus far, although a number of investigators believe this field warrants further study.

Overweight. A number of studies have shown that overweight is related to hypertension. Thus, the study of 23,000 army officers mentioned above found that hypertension developed at a rate of 2.5 per 1,000 in officers of normal weight and at a rate of 5.0 per 1,000 in officers who were overweight by more than 20 lbs.[6] Nevertheless, several recent studies have questioned the significance of overweight in relation to hypertension.[10]

CASUAL, RESTING AND BASAL BLOOD PRESSURES

Basal blood pressure means pressure measured during sleep after a therapeutic dose of amobarbital (Amytal). Resting blood pressure is variously defined. By some investigators, it is a pressure taken at rest after several days in a hospital. Casual blood pressures are usually defined as those taken during an ordinary medical examination.

Several studies have demonstrated that the prognosis of hypertensive patients is more closely related to basal blood pressure than to resting blood pressure and casual blood pressure. A recent study showed that when the basal pressure was 100-120 mm Hg diastolic, the survival in a group of hypertensive patients was 22% over a five year period, whereas for the same resting and casual diastolic levels, the survival precentages were 53% and 55%, respectively. Obviously, a number of less severe hypertensions were removed from the 100-120 mm Hg diastolic category by the basal pressure technique.[11]

Casual blood pressure readings obtained at frequent intervals with a semiautomatic portable blood pressure recorder while the patient is going about his daily activities provide valuable information relative to the actual pressures to which the cardiovascular system is subject from hour to hour and day to day. Thus, in one patient, the pressures were highest when a physician was present and within the normotensive range during most of the day. In a second patient, on the other hand, the lowest pressure was obtained when a physician was present. In a third patient, the pressures were hypertensive in the physician's office, in the hospital clinic and in the hospital, but, during part of the time at home, the pressures were normotensive.[12]

Age at Onset

Essential hypertension rarely has its onset as early as the first decade. Most commonly, it is in the thirties, and probably never after 50 years of age. Hypertension appearing before 20 years of age is likely to be secondary in type and after 50 is almost certain to be secondary hypertension. Usually hypertension develops without the patient being aware of the increase in blood pressure, but sometimes the onset is heralded by the appearance of tenseness, restlessness, hyperkinesis and emotional lability.

Duration of Life

From onset to death, the hypertensive life span of the untreated patient with essential hypertension averages 20 years, but varies widely. Long survival for 40 years or more is not uncommon, particularly among women, whereas at the other extreme untreated malignant hypertension results fatally in 1 to 2 years or less. Indeed, long survival with mild essential hypertension may be more common than generally believed,[14] since such patients may be without symptoms and not consult a physician.

Uncomplicated Hypertensive Phase

The average untreated patient with essential hypertension lives about three-quarters or 15 years of his hypertensive life before complications develop. One-third of untreated patients are asymptomatic during the uncomplicated phase. In the remaining two-thirds, complaints which may include headache, nervousness, dizziness, palpitation, insomnia, tinnitus, fatigue and difficulty in concentrating are inconstant in a majority.

Many physicians feel that they are familiar with the natural history of common diseases such as essential hypertension. In a review, there is opportunity to crystallize vague impressions, correct faulty ones and to offer comment. The author discusses the importance of natural history, factors related to blood pressure and hypertension, complications of essential hypertension and recent reduction in the mortality rate due to modern drug therapy. He emphasizes the need for further research. Doctor Wakerlin is Professor of Medicine at the University of Missouri School of Medicine and Director of the Missouri Regional Medical Program for Heart Disease, Cancer, Stroke and Related Diseases.

Complications of Essential Hypertension

Hypertension produces its adverse effects principally (1) by increasing the work of the heart secondary to increased peripheral resistance, which early is due to arteriolar vasoconstriction and later to arteriolosclerosis, (2) by accelerating atherosclerosis, and (3) by causing diffuse arteriolosclerosis.

As is to be expected in patients with untreated essential hypertension, higher resting and casual blood pressures are associated with a higher percentage of left ventricular hypertrophy and with more advanced left ventricular hypertrophy. The same is true for changes in the optic fundus as measured by the Keith-Wagner classification and for cumulative mortality over a five year period.[12]

Perera's study of the complications of essential hypertension in 500 untreated patients showed cardiac hypertrophy by X-ray present in 74%, with a mean survival period of eight years after appearance of this complication and a maximum of 18 years. Atherosclerosis manifested itself chiefly in relation to the coronary and cerebral arteries. Congestive heart failure developed in 50% of the patients and cerebral hemorrhage or thrombosis in 12%, with an average survival period of four years and maxima of 13 and 19 years, respectively. Manifestations of arteriosclerosis were especially evident in relation to the retina and the kidney. After proteinuria appeared, the mean survival period was five years with a maximum of 19 years and, following nitrogen retention, the average was one year with a maximum of ten years. A majority of the patients showed multiple complications.[13]

The excellent epidemiologic studies of the USPHS in Framingham, Massachusetts, have shown that the risk of coronary heart disease and myocardial infarction increases steadily with increasing systolic and diastolic pressures both in normotensive and hypertensive ranges.[15]

Causes of Death

Causes of death from essential hypertension in 1,800 untreated patients were congestive failure, 45%; myocardial infarction, 14%; cerebral hemorrhage or thrombosis, 18%; renal insufficiency, 7%; and other causes, 16%.

Recent Reported Reductions in Mortality

During 1950-1962, there was a decline of more than 40% in mortality from hypertensive heart disease and hypertension in the United States. In Caucasian males 55 to 64 years of age, the decrease was 55%.[16] A modest part of this decrease is due to prolongation of life of patients with malignant hypertension by modern drug therapy and to the diagnosis, treatment and (in some patients) cure of secondary hypertensions. Some clinical investigators have attributed a major part of the decrease in mortality to widespread use of antihypertensive drugs in essential hypertension. However, there has been no corresponding decrease in the overall mortality from the major cardiovascular-renal diseases and a number of epidemiologists and statisticians question recent mortality statistics relative to hypertension. Thus, the suggestion has been made that physicians now are more likely to ascribe death to coronary artery disease rather than to hypertensive heart disease. Certainly death in hypertensive patients treated with modern drugs is less frequently due to congestive failure and more frequently to myocardial infarction.

Future

The search for more effective antihypertensive drugs with minimal side effects must continue. The favorable influence of modern antihypertensive drug therapy and other management procedures in malignant hypertension and other forms of accelerated hypertension has been adequately demonstrated. However, there is great need for studies of the effect of long term control of moderate essential hypertension on morbidity and mortality, particularly in regard to coronary heart disease and stroke. For this purpose, treatment should begin early in the course of the disease, i.e., in the 30- to 40-year age group.

Continued biomedical research supported by government and voluntary agencies will eventually determine the etiology and pathogenesis of essential hypertension. Treatment will then become specific and curative, and prevention will be likely.

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Distribution of Health Services in Missouri: II. Distribution Changes of Doctors of Medicine and Osteopathy

AMONG RECENT TRENDS in American society has been the increase in centralization and specialization of various kinds of public and private services. This second article in a series on the distribution of health services in Missouri examines the extent of centralization of practicing M.D.'s and D.O.'s in the state.

An indication of the distribution and concentration of M.D.'s and D.O.'s with respect to size of town is shown in Table 1. Almost 30% of the D.O.'s in private practice are located in towns under 2,500 population; slightly more than 5% of the M.D.'s in private practice are similarly located. On the other hand, three-fourths of the M.D.'s practice in metropolitan counties while fewer than one-half of the doctors of osteophathy are located in these counties. About 15% of the full-time M.D.

TABLE 1

PERCENTAGE OF M.D.'S AND D.O.'S ACCORDING TO POPULATION SIZE OF CENTER

	Medical Doctors 1965				*Osteopathic Doctors 1966*			
	PRIVATE PRACTICE		FULL-TIME SPECIALIST		PRIVATE RRACTICE		FULL-TIME SPECIALIST	
Population of Center	Pct.	Cumulative	Pct.	Cumulative	Pct.	Cumulative	Pct.	Cumulative
-500	.9	0.9	.1	0.1	6.9	6.9	2.9	2.9
500-999	.9	1.8	.1	0.2	7.7	14.6	1.4	4.3
1,000-2,499	3.8	5.6	.3	0.5	14.6	29.2	7.2	11.5
2,500-4,999	4.2	9.8	.5	1.0	9.1	38.3	4.7	16.2
5,000-9,999	4.6	14.4	1.0	2.0	7.2	45.5	6.5	22.7
10,000-49,000	10.6	25.0	13.1	15.1	10.4	55.9	16.2	38.9
Metropolitan Areas: (Includes Buchanan, Clay, Greene, Jackson, Jefferson, St. Charles, St. Louis County and St. Louis City)	75.0	100.0	84.9	100.0	44.1	100.0	61.1	100.0

TABLE 2

M.D./POPULATION RATIOS FOR SELECTED YEARS, 1921-1965
IN FOUR-CITY COUNTIES AND BALANCE OF THE STATE

	Medical Doctors/100,000 Population					
	1921	1931	1940	1950	1961	1965
State	172.3	154.6	139.9	128.3	115.3	119.6
Four-City Counties	216.1	210.0	200.5	183.8	164.5	167.1
Balance of State	140.5	106.5	87.7	71.2	59.6	62.8
Ratio of Four-City Counties to Balance of State	1.54	1.97	2.29	2.58	2.76	2.66

This is the second* in a series of reports on the distribution of health services in Missouri. The authors here examine the extent of centralization of practicing M.D.'s and D.O.'s in the state and discuss trends in the distribution of both. Doctors Baker and Bishop are Associate Professors in the Department of Community Health and Medical Practice, University of Missouri School of Medicine. Doctor Baker also heads the preceptorship program for medical students. Doctor Hobbs is Associate Chairman of the Department of Rural Sociology, University of Missouri College of Agriculture. Doctor Hassinger holds a double appointment as Associate Professor in both departments. This study is supported in part by U.S.P.H.S. Grant CH-00252-01. Contribution from the Missouri Agricultural Experiment Station: Journal Series No. 5126.

specialists practice outside of the four metropolitan areas of the state while 38% of the full-time D.O. specialists are outside the metropolitan counties.

Changes in Distribution of M.D.'s

There has been a trend toward concentration of M.D.'s in larger towns in the state. Table 2 indicates the ratio of M.D.'s to population in the state at approximately ten-year intervals. The state is divided into the four city-counties which are St. Louis County and St. Louis City, Jackson County including Kansas City, Greene County including Springfield, Buchanan County including St. Joseph, and for the balance of the state. A division of the state in this manner identifies areas with highest concentration of M.D.'s and indicates trends in these areas over a period of time.

The data[1] reveal that the ratio of M.D.'s to population declined from 1921 to 1961 and increased slightly from 1961 to 1965. These changes may be observed in Fig. 1. The decline in ratios of M.D.'s to population is relatively greater in the counties outside the four city-counties. In 1921, there were about one and one-half times as many doctors of medicine per 100,000 population in the four city-counties as there were in the balance of the state; in 1965, there were more than two and one-half times as many.

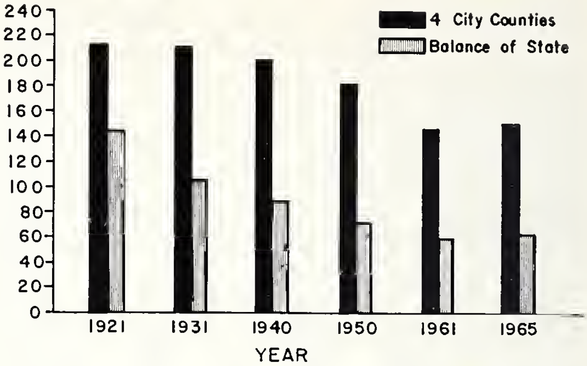

Fig. 1 M.D.'s Per 100,000 Population, 1921-1965.

Changes in location of physicians may also be observed by determining those towns with a physician in 1950, but without one in 1965 and, conversely, towns with a physician in 1965, but without one in 1950. There were 197 locations listing an M.D. in 1950 and showing a loss in 1965. On the other hand, 17 gained an M.D. where there had been none at the beginning of this 15-year period. Areas losing medical doctor services are generally small, but range up to more than 2,000 population. Scanning the M.D. registries suggests these losses occurred largely from death or retirement of doctors living in the communities many years. In most cases, doctors were not replaced. More than one-third of the towns indicating no medical doctor in 1950, but acquiring one by 1965, are in the St. Louis metropolitan area and centers of rapid population increase.

Changes in Distribution of D.O.'s

The geographical distribution of centers with a doctor of osteopathy in 1950, but none in 1966, and the converse is not identical to that of M.D.'s. Ninety-three centers indicate a D.O. in 1950 but none in 1966; fifty-six centers acquired a D.O. by 1966 when none was present in 1950.[2] The balance between centers losing physician services and those acquiring physician services for the first time is considerably more even for doctors of osteopathy than for doctors of medicine. The loss of D.O. services is not tied as directly to size of the community as the loss of M.D. services. Twenty-seven of the 93 towns without a D.O. in 1966, but with this service in 1950, had a population of over 1,000; for M.D.'s the number is 18 of 197.

The question may be raised whether or not the loss of an M.D. in a center resulted in the replacement by a doctor of osteopathy. About one-third of the centers acquiring a D.O. in

(Continued on page 929)

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* The first article in this series, "*I. Doctors of Medicine and Osteopathy,*" was published in the October, 1967 issue of Missouri Medicine.

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Chlorphentermine and Phenmetrazine Compared: Weight Reduction, Side Effects and Psychological Change

Excessive body weight is a serious problem for a large portion of the population.[1] Chlorphentermine* and phenmetrazine** are often used for weight reduction and both are reported to be of value.[2, 3] Few studies, however, have compared these two medications to determine their relative effectiveness for this pupose.[3]

Since both are known to cause undesirable behavioral change and side effects,[4–8] practitioners need further clarification regarding the comparative safety of each.

This study was undertaken to compare and evaluate these two compounds for: (1) capacity to reduce appetite, (2) side effects and (3) behavioral change.

Method of Procedure

Female employees of St. Louis State Hospital were invited to volunteer for the study. Fifty who were mentally and physically healthy, as determined by history and physical examination, were selected. Subjects were divided into two groups with averages on three parameters as follows: Group I—age = 33, percent overweight = 42, motivation to lose weight = a score of nine; and Group II—age = 33, percent overweight = 42, motivation to lose weight = a score of nine. Possible scores on the motivation scale were zero to 16 and actual scores ranged from four to 13.

Following a two-week baseline observation period and on a double-blind basis, medication was instituted for a 12-week period. One group received phenmetrazine endurets 75 mg and the other, chlorphentermine 65 mg. Medication was ingested once daily after breakfast. A two-week drug-free observation period terminated the study.

The project nurse made weekly determinations of weight, blood pressure and pulse rate and, also, completed a weekly side effects checklist consisting of the following items: dizziness, headache, nervousness, insomnia, increased motor activity, hand tremor, body tremor, urticaria, nausea, constipation, dry mouth, micturition, drowsiness, lightheadedness, weakness, restlessness and agitation, decreased appetite, increased appetite, euphoria and depression.

Subjects were advised by the nurse to eat less and a 1,000 calorie diet was described and suggested to them.

Prior to the study, subjects were asked to complete a questionnaire relating to: marital status, type of employment, educational level, annual income, frequency of snacks between meals, frequency of eating late at night, length of time at present weight, amount of interest in losing weight and an estimation of whether they would be successful in losing weight.

Psychological Reactions

At the termination of the final two-week drug-free period, subjects were asked if they experi-

A study of 50 obese women to compare and evaluate the relative effectiveness of chlorphentermine and phenmetrazine as appetite suppressants for weight reduction. Side effects and psychological reactions were among the factors observed. The authors offer the results as a guide to physicians in deciding upon which drug to prescribe. The authors are from the University of Missouri School of Medicine, Department of Psychiatry, Missouri Institute of Psychiatry in St. Louis where Doctors Sletten and Sundland are Assistant Professors and Doctors Pichardo and Viamontes are Resident Psychiatrists.

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*Pre-Sate—Warner-Chilcott Laboratories.
**Preludin—Geigy Pharmaceuticals.

enced irritability, anxiety, emotional turmoil or overaggressiveness, either during drug treatment or during the drug-free period, and if they felt the medication upset them at any time.

DATA ANALYSIS

Average scores for all data were obtained for both the baseline and the drug-free periods. The baseline scores were then subtracted from each of the 12 medication observation scores (end of each week) and from the average drug-free period score, yielding change scores for 13 periods. To test the significance of the observed changes, either sign tests[9] or t-tests for change scores[10] were used. In general, sign tests were used for judgmental data; side effects, self-ratings, etc.: t-tests for the more objective data; blood pressure, weight, etc.

RESULTS

Weight

Subjects reported both drugs reduced appetite. Chlorphentermine significantly reduced body weight (P<.01) as did phenmetrazine (P.<01). There was not a significant difference between drugs for any of the 14 weekly observation periods. Average loss of weight for each drug at three, six, nine and 12 weeks is noted in Table 1.

TABLE 1

AVERAGE WEIGHT LOSS IN POUNDS

Week of Treatment	*Baseline*	3	6	9	12
Phenmetrazine	180	7	9	11	12
Chlorphentermine	198	7	9	9	11

Blood Pressure and Pulse

Chlorphentermine treatment was associated with a significant fall in systolic blood pressure (P<.05). Phenmetrazine reduced systolic pressure, but not significantly. The difference between drugs was not statistically significant. One patient experienced elevations of blood pressure (up to 195/110) on two occasions a few days after chlorphentermine was initiated. This may have been an accidental occurrence; however, the patient was dropped from the study following the second episode.

No changes were noted in diastolic blood pressure. A pulse rate increase noted with phenmetrazine was not statistically significant (P>.05).

Side Effects

Phenmetrazine caused dry mouth (P<.01). The incidence of other side effects was not statistically significant. However, while on chlorphentermine, patients complained of dry mouth, sleepiness, increased micturition, increased motor activity and constipation. Less frequently, they mentioned lightheadedness, hand tremors, restlessness, nervousness and insomnia. In two patients, side effects (primarily drowsiness) were severe enough to discontinue treatment at the request of the subjects involved. While on phenmetrazine, patients complained of nervousness, insomnia, headaches and dry mouth. Less frequently mentioned and noted were hand tremors, constipation, increased motor activity, increased micturition and restlessness.

Weight Loss Relating to Questionnaire Items

The amount of interest a subject expressed in losing weight held a positive relationship to actual weight loss (P<.01), as did the subject's prediction that she would be successful in losing weight (P<.01).

Weight loss, however, could not be significantly related to marital status, type of employment, educational level, annual income, frequency of snacks between meals, frequency of eating late at night or length of time at present weight.

Psychological Reactions

Some patients complained of irritability, emotional turmoil and emotional upset. The difference between drugs was not statistically significant [P>.05 (Table 2)].

TABLE 2

NUMBER OF SUBJECTS REPORTING PSYCHOLOGICAL REACTIONS DURING STUDY

	Chlorphentermine	*Phenmetrazine*
During Treatment		
Irritability	3	3
Anxiety	3	3
Turmoil	2	3
Over-aggressiveness	3	3
During Final Drug-Free Period		
Irritability	1	2
Anxiety	1	1
Turmoil	1	2
Over-aggressiveness	2	1
During Either of Above Periods		
Emotional Upset	2	5

DISCUSSION

Chlorphentermine and phenmetrazine have both been demonstrated to reduce body weight [2, 3] and not to differ significantly in this respect.[3] Our findings agree.

As in other studies, chlorphentermine reduced systolic blood pressure[2] and phenmetrazine increased pulse rates.[10] Side effects, in general, were similar to those determined by others.[11-13]

Interest in losing weight, as well as the prediction that one would lose weight, were positively related to weight loss.

Both drugs caused some undesirable psychological reactions. During treatment, these reactions may reflect the usually noted central nervous system side effects. During the final drug-free period, symptoms may represent withdrawal symptoms.

CONCLUSION

The effectiveness and safety of these pharmacologic agents for use as appetite supressants did not differ significantly in this study. Side effects varied somewhat and clinicians may find it useful to consider these in deciding upon which drug to use.

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Distribution of Health Services (Cont'd)

1966, where none was present in 1950, lost an M.D. in the same period. This suggests the succession of M.D.'s by D.O.'s operates to some extent, but is only a part of the process of the location and relocation of physician services. The scientific-technological revolution that enabled advances in medical knowledge is a part of the process of M.D.'s relating to population centers. In larger cities, there are hospitals, other physicians, laboratories, pharmacies, trained nurses and specialized facilities that are part of modern medicine. Advances in transportation have paralleled those of medical science. Improved mobility also has facilitated concentration of physician services and, in some cases, has not reduced time-distance availability.

The observations of A. H. Anderson for Nebraska[3] is applicable for Missouri. He estimates one-half hour travel time was for about three miles in 1915. Now it is conservatively estimated to be 15 miles. A three mile radius represents 36 square miles; a 15 mile radius, 700 square miles. In terms of modern travel time, the doctor who is 15 miles away today is at least as close as the doctor was only three miles away in 1915.

Concentration of medical services, then, may not necessarily mean less accessibility. This, however, is of little solace to communities and individuals when no physician is reasonably accessable. Persons are not equally mobile and it is difficult to break old patterns. The image of the country family doctor has not been dispelled entirely from Missouri health folklore.[4]

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Component Society Meeting Dates

Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
Nodaway-Holt-Atchison-Gentry-Worth County Medical Society—second Tuesday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday of each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

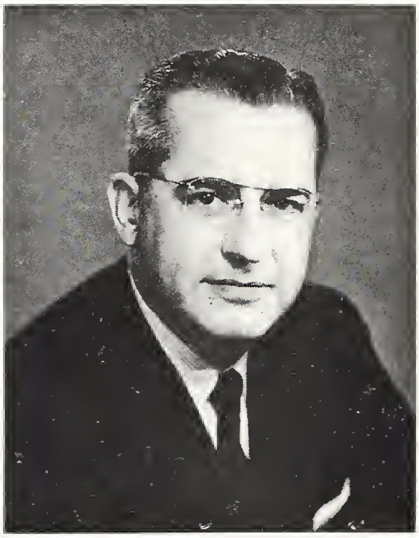
I am sure all members of MSMA are well aware of the current controversies existing at the national and state legislative levels regarding revisions of Medicare and Medicaid as they relate to future medical practice. Various unqualified groups, such as chiropractors, are striving diligently to be included under the provisions of these laws by attempting to expand the health care specified under Social Security, Title 18 and Title 19. Only the efforts of the knowledgeable members of our state legislature have made it possible to keep chiropractic out of Titles 18 and 19 in Missouri and maintain some degree of order for the protection of the public out of rapidly expanding health legislation. On the federal level, for instance, U.S. Representative Tom Curtis from St. Louis has fought our battles for many years in his role as a very important key man on the House Ways and Means Committee.

This brings me to the point I want to make that *now, and in the future, greater demands will be placed on our minds, our time and our pocketbooks in regard to supporting individuals seeking public office who have the welfare of the public at heart.*

The Political Action Committee movement started in 1961 at the AMA level and, subsequently, was adopted by the states. It has proved to be the most effective method for physicians in supporting candidates for office who, regardless of their political affiliations, share our deep concern for the health care needs of the people in this country.

The record achieved in 1966 by both the national and state PAC's was most encouraging. They supported the people who demonstrated their willingness and ability to check carefully all "give-away programs" which have been appearing all too frequently in our legislative deliberations and many of which would impose undue burdens on future generations. Indeed, here is proof that we, as physicians-citizens, must in turn take an increasing and abiding interest in the welfare of our state and nation.

You are now being asked to pay your Missouri Medical Political Action Committee dues which are voluntary and are not deductible (as they should not be) to support candidates who are carefully evaluated before any support is given to their campaigns. Thus far, the men who have been supported have exceeded by far our hopes for accomplishing what we believe is the responsibility of organized medicine.



Hector W. Benoit, Jr., M.D.

Even though organized medicine has made a relatively feeble effort in this area of activity, much good has been accomplished. I point out, with no sense of false pride, the fine record and achievements of the MMPAC in the short time it has been in effect. The members on this committee have given unselfishly of their time and personal effort to make this program successful. Now, they are merely asking for your financial support so that health legislation environment in both state and national legislatures can be further improved.

Consider the impact of your $25 or $50 (or more) contribution to the MMPAC. Consider what it can accomplish for you, personally, and for organized medicine. Of your initial $25 contribution, $10 will go to the AMPAC office in Chicago for national efforts. (Incidentally, Missouri has received considerably more support from AMPAC than it has given to it, which is not to our credit.)

I strongly and sincerely urge you to give *more* to this cause. Encourage your legislator with campaign funds as well as your personal support when asked to give of your time and effort. Become aware of your political and civic responsibilities. Know your local legislators and follow their records.

Join the MMPAC group. It is vitally important that you do so if qualified medicine and its responsibility for the health of the people is to survive in this rapidly expanding era of socialization in the United States of America.

Sustained circulatory, respirato and cerebral stimulation for t

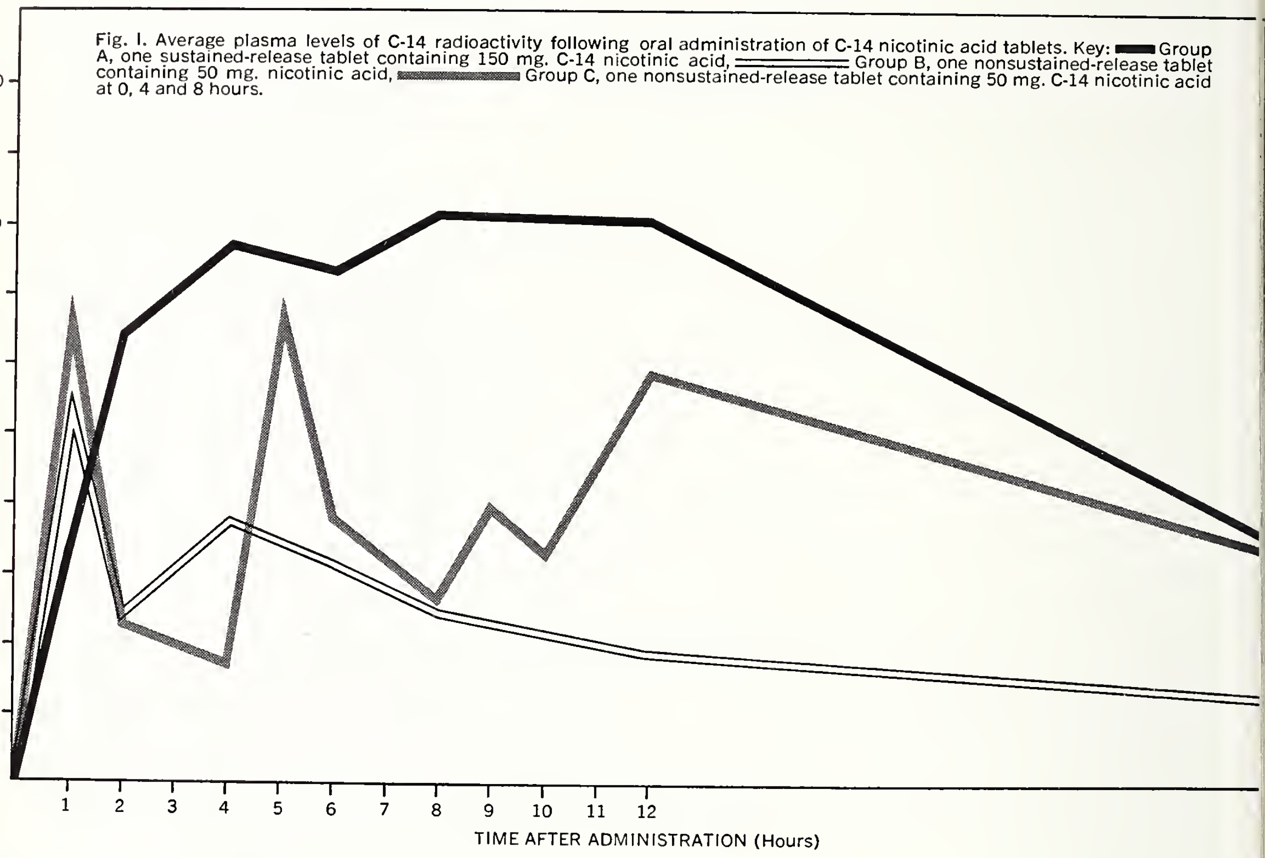


Fig. I. Average plasma levels of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

(fewer absent doses by absent-minded patients

Human volunteer subjects were administered Geroniazol TT tablets with the nicotinic acid component made radioactive with C-14. Plasma and urine samples were analyzed. (See Figures I and II) The radioactive tracer study substantiated the previous clinical evidence that the release of nicotinic acid from the Geroniazol TT tablet produced a gradual rise in plasma levels to a plateau for a total of 12 hours and more.

Such proven sustained activity makes the management of geriatric patients much easier by minimizing the possibility of neglected doses through absentmindedness or senile confusion. Therapy *can* be co tinuous on a daily dose of only one Geroniazol TT ta let every 12 hours.

The gradual release of nicotinic acid in Geroniaz TT will provide the well-known peripheral vasodilat tion needed in patients with deficient circulation ar with a minimum amount (if any) of "flushing." Als cerebrovascular circulation is complemented by pe tylenetetrazol, long-established as a cerebral and re piratory stimulant.

Geroniazol TT improves the typical, unfortunat signs of senile confusion. Patients become more aler

ed and debilitated

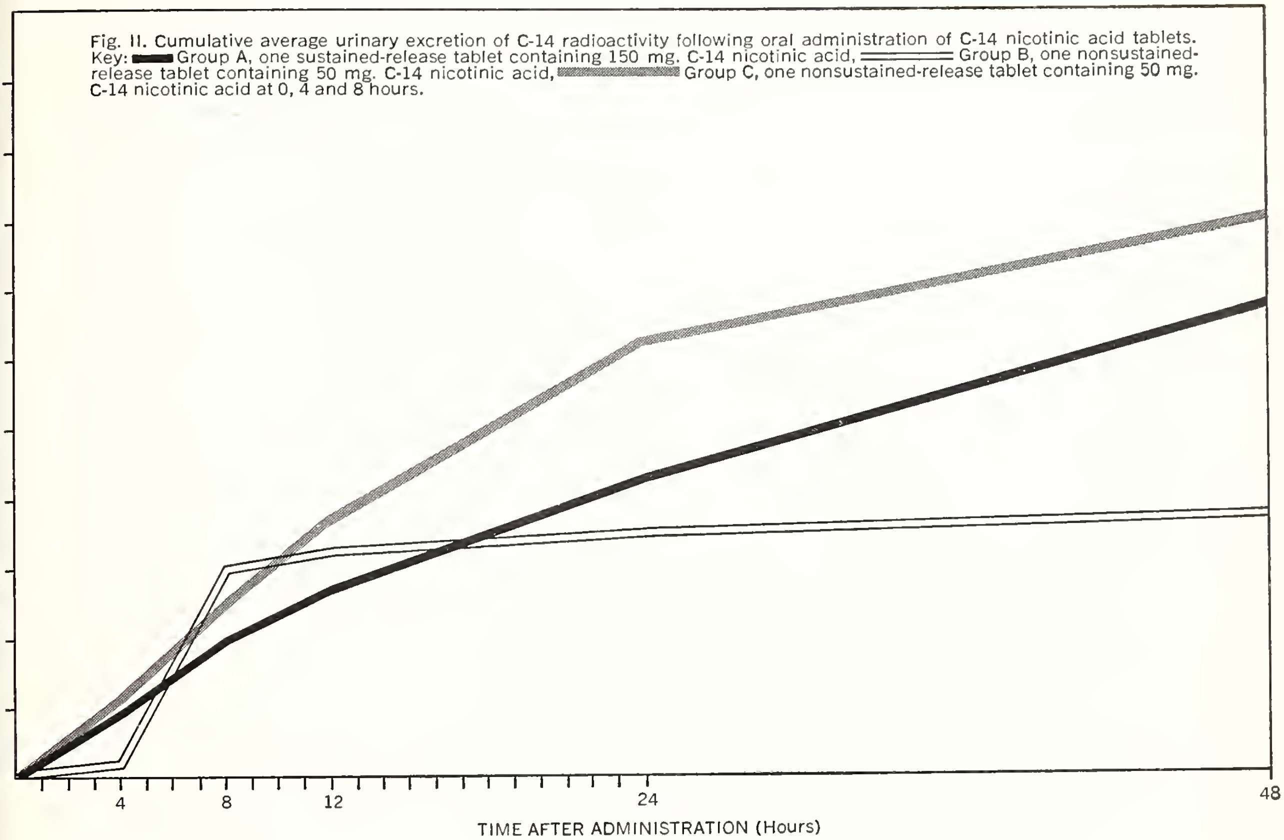


Fig. II. Cumulative average urinary excretion of C-14 radioactivity following oral administration of C-14 nicotinic acid tablets. Key: ▬ Group A, one sustained-release tablet containing 150 mg. C-14 nicotinic acid, ═ Group B, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid, ▨ Group C, one nonsustained-release tablet containing 50 mg. C-14 nicotinic acid at 0, 4 and 8 hours.

s confused and moody. Personal care, memory, otional stability, social attention improve. Fatigue, athy and irritability are reduced.

A prescription for 100 tablets of Geroniazol TT will rmit your patients to enjoy the benefits of time-olonged nicotinic acid/pentylenetetrazol therapy, an economical price. Dosage is only one tablet every hours.

ntraindications: There are no known contraindications.

recautions: Exercise caution when treating patients ith a low convulsive threshold.

Side Effects: Side effects are rarely encountered however due to the vasodilatation effect of nicotinic acid, transitory mild nausea, flushing, tingling and pruritus are possible.

Dosage: One tablet every 12 hours.

Supplied: Prescribe bottles of 100 tablets, to take advantage of recent price reduction.

References: 1. Report by Nuclear Science & Engineering Corp., Pittsburgh, Pa., in files of Philips Roxane Laboratories. 2. Connolly, R.: W. Virginia Med. J. *56*:263 (Aug.) 1960. 3. Curran, T. R., and Phelps, D. K.: Am. Pract. & Digest Treat. *11*:617 (July) 1960.

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Tempotrol® Time Controlled Tablet

Woman's Auxiliary

Mrs. John M. Williams

November is our month of National Thanksgiving. Originally, our courageous forefathers celebrated in thanks-giving for the blessings of survival and for being free to worship and to govern themselves. Today, many of us take for granted a hundredfold more numerous blessings with very little conscious thanks-giving. We continue to live with apathy and unconcern as the freedoms, which our forefathers were willing to leave their homes and face death at every turn to achieve, are being infringed upon and constantly whittled away. Our tremendous heritage of freedom, the essential right to vote and govern ourselves, is being taken so lightly that millions of Americans will not register to vote or take the time to go to the polls if they are registered. These amazing statistics include a very large number of doctors and doctors' wives.

The alarming trend toward centralization and socialization of our government continues at a fast-moving rate. It would appear that the past and present administrations are bending our American freedoms over backward in order to assure freedoms of small religious groups, civil rights groups, labor union groups and poverty areas with the paradoxical result that the huge majority of our people now live under ever-increasing restrictions of new laws and court rulings, tremendous tax burdens and curtailment of moral and civil authority in dealing with outright crime and violence.

Each year, we are confronted with more and more legislation concerned with public health and welfare. In addition to being alert and knowledgeable, it is our responsibility to have the courage of our convictions as American citizens to speak out and let our legislators know our feelings for or against such legislation. It is an equally vital duty to become involved in and helpful to the political organization of our choice in encouraging capable citizens to run for office and working to see them elected. It is only with such representation that we can hope to be heard and properly represented in making the laws and influencing the policies that govern our country.

As members of the Missouri State Medical Association and its Woman's Auxiliary, we are privileged to have fine legislation committees on the national, state and county levels. If the county society and auxiliary legislation chairmen work together to convince local members that only a fraction of the effort and sacrifice made by our forefathers is required of each of us to insure the freedoms of which they dreamed and for which they died, surely at election time in this coming year, every physician and his wife will vote and will know his congressional representatives. Read, study, evaluate and act on communications regarding legislation. Please do not put them aside for another day or time that may be too late. Find out who your County Legislation Chairmen are, get the information you need from them and offer your help where it is needed.

Women have long been recognized as one of the greatest working forces in precinct election work, in achieving final election results and in arousing interest in pending or needed legislation. If our doctors will show their interest and their wishes, I am sure their wives will take the time and make the effort to see that all of us, and as many other Americans as we can reach, can stand up and say that we have fulfilled the rights and privileges, duties and obligations of an American citizen and voter.

EDITORIALS

PUT AWAY YOUR MOVIE CAMERAS, PARENTS!

In the April, 1967, *American Journal of Psychiatry* Dr. K. R. Eissler (pp. 1307-1308) writes the editor expressing his concern over the effect of the modern ready availability of one's own photographs on one's psychic health. Pointing out that it was difficult in years past to know what one looked like, mirrors being unavailable, it is now accepted that all of us have some objective idea of our form. Such knowledge may not be altogether good for us, says Dr. Eissler, and may account for troubles with depersonalization which psychiatrists apparently have to deal with. For example, one of his patients was a homosexual whose picture as a nude baby was kept around the house, contributing to his problem.

Dr. Eissler is particularly concerned about home movies which are made of children as they grow up, and are repeatedly shown to them, perhaps confusing them about their stage of development. Worst of all, he feels, is showing children movies of their parents when they themselves were children. In a society in which Dr. Eissler feels the parent-child relationship is already too much like an older-younger sibling relationship, he feels the movies will be a bad blow.

Affluence plays a part in this problem, Dr. Eissler says, pointing out that home movies are more commonly made by the elite, as he calls them. He doesn't mention that the affluent are also more likely to be consulting psychiatrists—at least those in private practice.

Going back to one's own experience, it seems a bit hard to imagine such damage coming from the movies. For one thing, it is usually only the first child who is subjected to a great deal of movie-making, subsequent children getting into the act in about the square root, cube root and so on of the time originally spent. Then, too, the showing of movies is usually, and hopefully, in the family circle and is an occasion for laughs, all of which should strengthen the psyche, except for criticism of Dad, who couldn't hold the camera still and whose thumb appears at frequent intervals.

Despite these doubts, maybe we had all better start asking our patients whether they feel home movies have done them harm. Probably most of the "yes" answers will come from those who say they have been bored half to death by someone else's productions, not from seeing themselves get a bath at age six months.

—North Carolina Medical Journal

SECOND SERMON

Recently we heard a well-known, vastly intelligent minister very aptly pin the present civil disobedience and racial disorder on the seeds of discontent planted by the Communists among us. As far as he went, we are in total agreement, but his sermon was a half message. He told us who planted the seeds of violence. However, he failed to tell us who fertilized and watered those seeds into a present-day crop of disorder, chaos and fear. He failed to tell us how these seeds were permitted to become full-grown plants, those we are now forced to harvest. The other half of the sermon deserves to be delivered.

In his second sermon, he should tell us about the number of rape cases in the United States, the number of convictions and what happened to those apprehended, tried, but relieved of any penalty because of some legal technicality. He could tell us about the sanctimonious, wrist-slapping judge who paroles multi-offenders and then turns them loose to prey on an unsuspecting public. He should tell us about the number of aggravated assaults, even in a small area—say the city of St. Louis—and then tell us about the convictions, the paroles, the repeaters and the judges who sit on benches for life because they cannot be opposed for office.

He should tell us about all the do-gooders who would restrict the ownership and possession of guns. Likewise, he should tell us about those who would deprive the law-abiding citizens of the ability to obtain weapons of defense, while not controlling the ownership and possession of guns by those who use them as weapons of offense.

He should tell us about the jails where prisoners are given the Four Freedoms plus television. He should tell us about lawyers (some of them perhaps, in his own congregation) who know their client is guilty, but because of an "ethical," legal(?) morality are required to defend him in any fashion or manner leading to his full release. They are required to gain for him an opportunity to again prey on society.

Yes, our minister knows who planted the seeds. He has seen the resulting crop, but he has not yet pointed his finger at the ones who let the seeds grow: our lawyers—our courts—our do-gooders—

our cheek-turners—our about-to-be-disarmed apathetic citizens, who would rather watch a sadistic murder on TV than serve on a jury.

It is easy for any of us to talk about what happened in Detroit and other far-away places. It is easy for any of us to talk about the misled rabble rousers who are far away in China or under arrest for carrying concealed weapons here in the United States. It isn't easy to talk about the weeds growing from Communist seeds planted on the banks of the Mississippi River in St. Louis and St. Louis County. Yet, this is where apathy and indifference can cause us to reap a harvest of violence from the plants we are unwilling to identify, unwilling to cut down, unwilling to uproot.

—St. Louis County Medical Society Bulletin

HOW TO MAKE A MARK IN HISTORY

I recently looked into the Columbia Encyclopedia, Second Edition, published by the Columbia University Press in New York, to find something about the French neurologist *Babinski*, whose name and neurological contributions are known to every doctor. I was surprised to find that *Babinski* is not mentioned in this encyclopedia. However, as I glanced through the B's in this encyclopedia I noted that Lucretia Borgia, whose main claim to fame is that she murdered two of her husbands, receives thorough biographical coverage.

This set me to thumbing through the pages of this encyclopedia to find out just how people achieve lasting fame and secure a place in history. I discovered that the great German surgeon *Billroth*, whose surgical advances have saved untold thousands of human lives, is not mentioned at all; however, the biography of the infamous Nazi executioner Heinrich Himmler, who personally directed the murder of six million people, is given in detail. The Japanese bacteriologist Noguchi, whose discoveries have saved countless millions and who himself died of yellow fever while studying the disease, receives mention in a scant 14 lines; the Japanese warlord Tojo, who caused the deaths and misery of millions and who was executed as a war criminal, receives about twice that much space.

Further perusal of this encyclopedia dealing with the great events of human existence reveals that the American physician *Joseph Goldberger*, who proved that pellagra is due to nutritional deficiencies and who saved untold thousands from suffering and death, is praised in 10 lines; immediately preceding him we read a much more extensive coverage of the life and work of the American cartoonist Rube Goldberg, one of whose major contributions is stated to be the authorship of a successful comic strip titled "Boob McNutt." The great German psychiatrist *Emil Kraepelin* is not mentioned at all for his systematization of psychiatry into a modern medical discipline; in contrast, the life of the infamous Nazi propagandist Paul Joseph Goebbles is covered in detail.

Turning to the American scene, we discover that the Chicago underworld vice lord Al Capone merits 23 lines in the Columbia Encyclopedia; his Chicago contemporary, Mother Frances Cabrini, who spent her life founding hospitals, orphanages, nurseries and schools in Chicago, and who was the first American to be ecclesiastically beatified and canonized, receives much less space than Mr. Capone. Alexander Fleming, who discovered penicillin and led to saving untold millions of lives, receives 14 lines; Adolf Hitler, who led to the destruction of untold millions of lives, occupies 280 lines.

The moral of all this seems to be that if you want to be remembered for posterity in the encyclopedias, put down your stethoscope, doctor, and get yourself a machine gun.

A. Harry Chapman, M.D.
Greater Kansas City Medical Bulletin

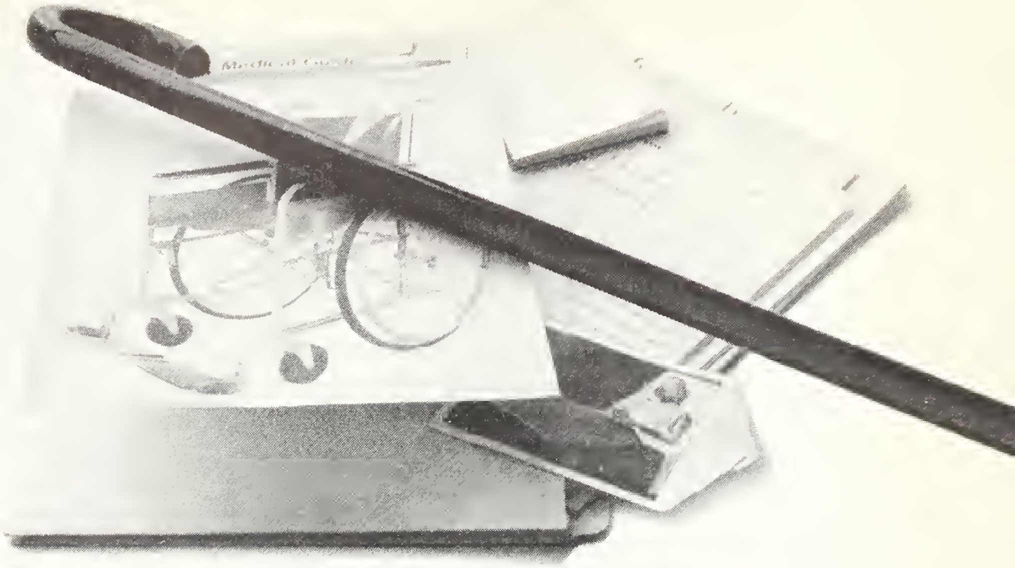
VOLUNTEER PHYSICIANS FOR VIET NAM

MSMA has received a letter from Milford O. Rouse, M.D., president of the American Medical Association, urging Missouri physicians to consider a voluntary service of 60 days in one of 18 provincial hospitals in South Viet Nam.

Doctor Rouse pointed out that three Missouri physicians have participated in the Volunteer Physicians for Viet Nam program which supplies medical care to the civilian population of South Viet Nam through the volunteer services of U. S. physicians.

The American volunteer will face medical challenges in South Viet Nam which most of his colleagues back home have seen only in textbooks. He will return home (according to those who have been there) with a sense of contribution and a fulfillment which is difficult to describe.

Traveling expenses and per diem of ten dollars per day will be paid volunteers. Additional information may be obtained from AMA Volunteer Physicians for Viet Nam, American Medical Association, 535 North Dearborn St., Chicago, Ill. 60610.



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Each capsule contains:

Vitamin B_1 (as Thiamine Mononitrate)	10 mg
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Vitamin B_6 (Pyridoxine HCl)	2 mg
Vitamin B_{12} Crystalline	4 mcgm
Vitamin C (Ascorbic Acid)	300 mg
Niacinamide	100 mg
Calcium Pantothenate	20 mg

Recommended intake: Adults, 1 capsule daily, for the treatment of vitamin deficiencies. Supplied in decorative "reminder" jars of 30 and 100; bottles of 500.

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MSMA Members Invited to Annual Cancer Conference

The Cape Girardeau County Medical Society and the Missouri Division, American Cancer Society, will present the Southeast Missouri Annual Cancer Conference in the new Language Arts Building Auditorium at Southeast Missouri College in Cape Girardeau on November 19.

The program will present discussions of "Malignant Lesions of the Oral Cavity, Oropharynx and Sinuses" and the pathology, radiation therapy and surgery for these lesions. The final section will present a showing of slides for prosthetic devices and related items.

Guest speakers will be N. H. Rowe, Jr., D.D.S., Associate Professor of Pathology and Chairman of the Department of General and Oral Pathology, Washington University School of Dentistry; Malcom H. McGavran, M.D., Associate Professor of the Division of Surgical Pathology, Department of Pathology, Washington University School of Medicine; W. E. Powers, M.D., Professor of Radiology and Director of the Division of Radiation Therapy of the Mallinckrodt Institute of Radiology, Washington University School of Medicine; and Elmer J. Schewe, Jr., M.D., Surgical Consultant for the Ellis Fischel State Cancer Hospital and medical staff member of Boone County Hospital.

Presentation of slides will be made by Ercell L. Miller, D.D.S., Associate Professor, University of Kansas City, Missouri School of Dentistry; Consultant Staff Member of Ellis Fischel State Cancer Hospital; and Clinical Associate Professor, University of Missouri School of Medicine.

All members of MSMA are invited to attend this annual conference for physicians and dentists in Southeast Missouri and Southern Illinois and members of the Eighth District Nursing Association, the Sixth District Society of Radiologic Technologists and the Southeast Missouri State College Nursing Program.

Now! 14 x 17 X-ray or Medical Record Cabinets within price range of open shelving with panel back-sliding doors. ADD A FILE—2 compartments, $70.00 F. O. B. factory in Illinois.

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Butazolidin®, phenylbutazone
In Acute Superficial Thrombophlebitis

Contraindications: Edema; danger of cardiac decompensation; history or symptoms of peptic ulcer; renal, hepatic or cardiac damage; history of drug allergy; history of blood dyscrasia. The drug should not be given when the patient is senile or when other potent drugs are given concurrently. Large doses of Butazolidin alka are contraindicated in glaucoma.

Warning: If coumarin-type anticoagulants are given simultaneously, watch for excessive increase in prothrombin time. Instances of severe bleeding have occurred. Pyrazole compounds may potentiate the pharmacologic action of sulfonylurea, sulfonamide-type agents and insulin. Carefully observe patients receiving such therapy. Use with great caution in the first trimester of pregnancy.

Precautions: Before prescribing, carefully select patients, avoiding those responsive to routine measures as well as contraindicated patients. Obtain a detailed history and a complete physical and laboratory examination, including a blood count. The patient should not exceed recommended dosage, should be closely supervised and should be warned to discontinue the drug and report immediately if fever, sore throat, or mouth lesions (symptoms of blood dyscrasia); sudden weight gain (water retention); skin reactions; black or tarry stools or other evidence of intestinal hemorrhage occur. Make regular blood counts. Discontinue the drug immediately and institute countermeasures if the white count changes significantly, granulocytes decrease, or immature forms appear. Use greater care in the elderly and in hypertensives.

Adverse Reactions: The most common are nausea, edema and drug rash. Swelling of the ankles or face may be minimized by withholding dietary salt, reduction in dosage or use of diuretics. In elderly patients and in those with hypertension the drug should be discontinued with the appearance of edema. The drug has been associated with peptic ulcer and may reactivate a latent peptic ulcer. The patient should be instructed to take doses immediately before or after meals or with milk to minimize gastric upset. Mild drug rashes frequently subside with reduction of dosage. However, rash accompanied by fever or other systemic reactions usually requires withholding medication. Purpuric rash has also been reported. Agranulocytosis, exfoliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Acute Superficial Thrombophlebitis: Initial: 6 capsules or tablets daily in divided doses for 2 or 3 days. Maintenance: 3 capsules or tablets daily. Usual duration of therapy is 5 to 7 days (rarely beyond 10 days). 6509-V(B)R2

*Stein, I.D.: Presented at the American Academy of General Practice, Dallas, Sept. 1967.

For complete details, please see full prescribing information.

WASHINGTON

The American Medical Association has urged that Congress precisely define "public health services" to prevent the so-called "Partnership in Health" legislation from being used as authority for unlimited expansion of government medicine.

In a letter to Chairman Lister Hill (D., Ala.) of the Senate Committee on Labor and Public Welfare, Dr. F. J. L. Blasingame, executive vice president of the AMA, said:

"We are especially concerned with a lack of definition with respect to comprehensive public health services. Neither 'comprehensive' nor 'public health services' is defined in the law or the bill. While we recognize there is supportable advantage in removing strict categorization of grant funds, we are concerned that the categorical identification having been removed, there will no longer be any limitation on the health care which may be provided. Indeed, from testimony on this legislation by government officials, it would appear that our concern is justified. Is it the intent that the Congress is authorizing a program of *individual treatment* for *unidentified patients* for *unspecified conditions* for *unlimited services?* It is clear that the lack of definition of 'public health services' is, in effect, an invitation from Congress to unlimited expansion of 'public health' beyond its traditional role in the community.

"The AMA has supported, and continues to support the furnishing of public health services. We also have supported flexibility of operation within the state and local health departments as an effective tool for community health. We feel, however, that the distinction between the public and private health sectors should be delineated . . . in more positive terms than the mere prohibition against interference with the existing patterns of private professional practice. . . . Accordingly, the Association finds itself unable to support this portion of the legislation providing for an undefined program of comprehensive public health services."

The AMA also opposed a provision for federal licensure of clinical laboratories on the ground that licensing of such facilities traditionally has been a state matter.

"We believe that federal licensure of these facilities would establish an undesirable precedent," Dr. Blasingame said.

* * *

The controversy over generic vs. brand name drugs was aired at hearings of the Senate Finance Committee and the Senate Small Business Monopoly Subcommittee.

Chairman Russell B. Long (D., La.) of the Finance Committee planned to offer an amendment to the Social Security bill, which includes Medicare and Medicaid changes, to put the emphasis on generic drugs in government medical programs. The monopoly subcommittee, headed by Sen. Gaylord Nelson (D., Wis.), was investigating drug pricing policies with the same objective as Long's proposal. Long's proposal included the creation of a federal panel to select the highest quality but lowest cost prescription drugs for which patients would be reimbursed under government medical programs.

Both the Food and Drug Administration and the drug industry opposed establishment of such a committee and national formulary of drugs.

FDA Commissioner James Goddard, M.D., said it would result in "an encroachment on the practice of medicine in such a way that I believe the physicians of this country would rise up in wrath."

C. Joseph Stetler, president of the Pharmaceutical Manufacturers Association, joined Goddard and John W. Gardner, Secretary of Health, Education and Welfare, in urging that action on the matter be postponed until a report is made on a special study being conducted by HEW. The report is due Dec. 1.

Stetler said the drug industry recognizes the government's responsibility to control federal expenditure in its drug purchase programs. But, he said, Long's proposal would put such a low ceiling on drug prices that it would "jeopardize the ability of quality, research-oriented pharmaceutical companies to perform effectively."

"The health of all of us and of future generations is dependent on the continued growth and vitality of a progressive and successful pharmaceutical industry," he said.

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Many of the questions patients ask about "the pill" and other birth control techniques are answered in a new AMA pamphlet, "Contraceptive Drugs & Devices." Containing the latest available facts on contraceptive drugs and devices, the publication replaces the former AMA pamphlet, "Is the Pill the Answer?"

The six-page pamphlet discusses the various types of oral contraceptives and intrauterine contraceptive devices, their effectiveness and the incidental effects which may occur with their use. It urges readers to obtain their physician's advice in selecting a contraceptive method that suits their individual needs and desires.

Review copies may be obtained from the Health Education Department. Quantity orders may be obtained from the Order Department at prices ranging from 14 cents each for 50-99 copies to 8 cents each for 1,000 or more.

• • •

To meet the continued heavy demand by medical societies, auxiliaries, individual physicians, medical schools and other schools and libraries, the AMA has scheduled its fourth printing—100,000 copies—of *Horizons Unlimited,* its popular health careers handbook. Since the 144-page paperback was introduced in April, 1966, distribution has averaged more than 16,500 copies a month. Total distribution now exceeds a quarter of a million copies. Copies of the complimentary publication and other health careers literature are available from the Program Services Department.

• • •

The new publication, "Guide for Development and Administration of Coordinated Home Care Programs," will be helpful to physicians and their medical societies interested in establishing or expanding existing home care programs in their local communities.

The 22-page guide, prepared by the AMA and seven other national health organizations, including the Public Health Service, outlines key steps essential in formulating and administering such programs to assure that patients' needs, as seen by their physicians, are met with the greatest possible effectiveness and efficiency, thus facilitating continuity of care.

Participation in development and publication of the guide is one phase of an expanded AMA program aimed at encouraging greater physician utilization of home health services for their patients and medical society leadership in establishing new programs.

Medical societies and physicians may obtain reasonable quantities of the guide without charge by writing the Health Care Services Department of the AMA.

• • •

A revised version of the AMA pamphlet, "Mechanical Quackery," is now available from the Order Department.

The eight-page pamphlet, which contains illustrations of seven typical phony devices used by quacks in defrauding ill people hoping for a miraculous cure, describes common techniques used in this annual multi-million dollar "medical" swindle. A special feature of the publication is a "beware" checklist of six ways to spot a quack. Review copies may be obtained from the Department of Investigation.

Quantity copies, available through the AMA Order Department, range from 9 cents a copy for 50-99 copies to 4 cents a copy when 1,000 or more are obtained.

• • •

Sound tips for personal hygiene are contained in a new eight-page AMA pamphlet, "Time Out for Good Grooming," a reprint from an article published in *Today's Health.*

Copies are available from the AMA Order Department at prices ranging from 15 cents for single copies to 8 cents a copy for quantities of 1,000 or more.

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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Buchanan County Medical Society

The annual election meeting of the Buchanan County Medical Society was held on October 4 in St. Joseph with 35 members present. Dr. John L. Mothershead, Vice-President, presided.

The following officers were elected: President-Elect, John L. Mothershead; Vice-President, Maxwell Day; Secretary, Owen W. D. Craig; Treasurer, Robert W. Kieber (re-elected to office for the 15th consecutive year); Member, Board of Censors, Randal W. Weed; Delegates to MSMA, Ernest E. Wadlow, Richard V. Riddell and John N. Martin; Alternates, Allen I. Herman, Thompson E. Potter and William B. Rost; Member, Committee on Public Policy, Wilbur P. McDonald; Board of Trustees to 1973, Lawrence H. Pifer; Executive Secretary Committee, Irwin I. Rosenthal (retiring President).

The newly elected officers and Berwyn H. Moen, incoming President, will be installed at the annual meeting of the Society in December.

Dr. Carroll P. Hungate, Kansas City industrial surgeon and past Chairman of both the AMA and MSMA Civil Defense Committees, presented the program. His topic was "Civil Defense and Disaster Medical Care." Doctor Hungate made a most interesting presentation with illustrated slides.

"You are in excellent shape for a man of 70 . . . . too bad you're only 45!"

Maxwell Day, M.D., *Secretary*

Grand River Medical Society

Fifty-six members and guests of the Grand River Medical Society and Auxiliary met for the regular monthly dinner meeting on September 14 in Chillicothe.

The scientific session was presented by Dr. Lester Wolcott, Chief of the Section of Physical Medicine and Rehabilitation at the University of Missouri Medical Center, and Drs. Ralph Stewart and Bill Flentje from the University of Missouri Athletic Department. The program dealt with athletic injuries and, particularly, the prevention and early treatment of football injuries. The high school football coaches and their wives from the Grand River area were invited guests. The program was very timely and well received.

Albert D. Cross, M.D., *Secretary*

SECOND DISTRICT

COUNCILOR
LYSLE M. BACH, M.D., HANNIBAL

Chariton-Macon-Monroe-Randolph County Medical Society

The Chariton-Macon-Monroe-Randolph County Medical Society held its monthly dinner meeting on September 14 in Moberly. Dr. Paul E. Feldman, Chief of Research at Topeka State Hospital, spoke on "The Treatment of Anxiety and Depression Neuroses."

Members present were Drs. D. E. Eggleston and J. E. Campbell, Macon County; F. L. Harms and D. D. Stuart, Chariton County; Josephine Baker, A. P. Rowlette, T. S. Fleming, Robert Young, W. D. Chute, C. C. Cohrs, L. E. Huber, Robert Hasson, P. V. Dreyer and C. C. Smith, Randolph County; and F. A. Barnett, Monroe County.

Robert Hasson, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Lafayette-Ray County Medical Society

The Lafayette-Ray County Medical Society met on September 12 in Lexington. Twelve members and seven guests were present.

The minutes for the last meeting were read and approved, and correspondence was read and acted upon. Election of officers for 1968 followed. Newly-elected officers are: President, Frank Crozier; President-Elect, Joe Ward; Secretary and Treasurer, Wayne Boydston; Delegates to MSMA, Joe Cope (Lafayette) and Tom Cook (Ray); Alternates, William LaHue (Lafayette) and George DeVault (Ray).

A program was not scheduled for this meeting. The meeting adjourned.

Wayne Boydston, M.D., *Secretary*

West Central Missouri Medical Society

Fifteen doctors and 42 coaches attended the first fall meeting of the West Central Missouri Medical Society in Nevada on September 14. This was the annual meeting of members of the Society and coaches from the surrounding area. The usual social hour was followed by a buffet dinner and the scientific and instructional part of the program.

Featured speakers were Garth S. Russell, M.D., orthopedic surgeon and a team physician for the University of Missouri football team, and Coach Bob Frala, head freshman coach for the team. Both made excellent presentations concerning duties of the coach and team physician in prevention and treatment of athletic injuries, including the treatment on the field and the disability to be expected from certain types of athletic injuries. This was one of the best meetings of this type the Society has held. The guest speakers are to be complimented upon the excellence of their presentations.

Following this portion of the meeting, the doctors adjourned for a business meeting. The two speakers remained with the coaches to discuss problems and answer questions.

The business meeting was called to order by the Secretary, Dr. R. W. Pearse, Jr., in the absence of other officers. Minutes of the last meeting were approved. Correspondence of significance received by the Secretary during the summer months was summarized and presented. The Secretary informed the members about promotional literature he had received and would be able to obtain if any individual counties or towns in the Society area wished to promote a particular program such as a diabetes detection drive.

The report of the Credentials Committee was the only report to come before the meeting. This Committee reported favorably on the application of Dr. Harvey V. Langeluttig, Jr., a new physician in practice in Nevada. On motion duly made and seconded, Doctor Langeluttig was elected unanimously to membership in the Society.

Forty-two coaches were guests of the West Central Missouri Medical Society at its annual meeting for area coaches to discuss the prevention and treatment of injuries which occur to athletes, especially football players. Guest speakers were Coach Bob Frala, freshman coach of the University of Missouri football team, and Dr. Garth S. Russell, orthopedic surgeon and a team physician. (L. to r.) Dr. Roy W. Pearse, Jr., Secretary of the Society; Coach Frala; Doctor Russell; and Coach Moe Cotter of the Nevada Tigers.—(Photo courtesy of the *Nevada Daily Mail*)

It was announced that the next meeting will be held on October 12 in Butler. The program will be arranged by Dr. William W. Haynie of Butler. Members were reminded that this will be the meeting for election of officers, delegates and alternates to the MSMA Annual Session for the coming year.

There being no further business, the meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area Medical Society

The Mineral Area Medical Society met in Farmington on September 28. Present were Drs. Ben Bull, Tom R. Burcham, Charles E. Carleton, Charles W. Chastain, George F. Creswell, F. Richard Crouch, Robert F. Dettmer, William Ford, Marvin Grossman, Emmett F. Hoctor, Robert A. Huckstep, Alvin G. Karraker, Jack

Mullen, George Oliver, Kirby L. Turner and George L. Watkins.

We were fortunate to have as guests at this meeting Mr. William Brennan of the Missouri Medical Service Blue Shield and Mr. Jerry Patton of St. Louis. They informed us that, as a part of a statewide survey, they were making a survey of the section of the state under their jurisdiction in regard to prevailing fees. After a question and answer period, they distributed a bulletin, entitled "Your Prevailing Fees Survey," and a reprint from the December 27, 1965, issue of *Medical Economics,* entitled "Name Your Own Blue Shield Fee." They asked that the physicians fill out answers to all questions included in the booklet and return the Bulletin to Blue Shield Headquarters.

After the appearance of Mr. Brennan and Mr. Patton, the Society held its usual business session. The minutes of the last meeting were read and approved.

The resolution passed at the 1967 session of the House of Delegates concerning joint billing of medical society and MMPAC dues was discussed, with correspondence pertaining thereto with the State Association office being read.

It was indicated that the Program Committee, consisting of Drs. Turner, Watkins and Mullen, are working on programs for the coming year and are securing a program for October 19, the date of the next meeting. Doctor Chastain was appointed to contact appropriate members of the Bar Association regarding a joint meeting this fall.

The matter of the MSMA Medical Society Officers' Conference was discussed. It was decided that, if possible, one or more representatives of the Society would attend.

There being no further business, the meeting was adjourned.

WILLIAM FORD, M.D., *Secretary*

Continuing Education Coming Events

Nov. 2-3	**Seminar: Pediatric Allergy** Sponsored by American College of Allergists Menorah Medical Center, Kansas City
Nov. 7-10	**Neurologic and Psychiatric Problems of Medical Patients** (4 day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Dec. 6-8	**Kansas City Society of Ophthalmology and Otolaryngology** Refresher Course Plaza Inn Motel, Kansas City
Dec. 8	**Rehabilitation of the Deformed Individual** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Dec. 12-15	**A Comprehensive View of Endocrinology and Metabolism** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Jan. 16-19	**A Comprehensive View of Cardiovascular Diseases** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Jan. 17-18	**Peripheral Vascular Disease** Continuing Education, M.U. School of Medicine Medical School, Columbia

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ions: Urinary tract infections caused by gram-negative and some gram-
e organisms.

fects: Mainly mild, transient gastrointestinal disturbances; in
onal instances, drowsiness, fatigue, pruritus, rash, urticaria, mild
philia, reversible subjective visual disturbances (overbrightness of
change in visual color perception, difficulty in focusing, decrease in
cuity and double vision), and reversible photosensitivity reactions.
overdosage, coupled with certain predisposing factors, has produced
onvulsions in a few patients.

tions: As with all new drugs, blood and liver function tests are advis-
ring prolonged treatment. **Pending further experience, like most
herapeutic agents, this drug should not be given in the first trimester
nancy. It must be used cautiously in patients with liver disease or
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ed in a small number of cases, patients should be cautioned to avoid
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l doses. The dosage recommended above for adults and children
not arbitrarily be doubled unless under the careful supervision of a
an. Until further experience is gained, infants under 1 month
not be treated with the drug.**

pplied: Buff-colored, scored Caplets® of **500 mg. for adults,** conve-
available in bottles of 56 (sufficient for one full week of therapy) and in
of 1000. **250 mg. for children,** available in bottles of 56 and 1000.

nces: (1) Based on 23 clinical papers, 1512 cases. Bibliography on
t. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.:
crobial Agents and Chemotherapy—1964, Ann Arbor, American
y for Microbiology, 1965, p. 722.

nthrop

nrop Laboratories, New York, N. Y. 10016

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*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas[2]... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

New Members

Jackson J. Bence, M.D., 44th & Wornall Rd., Kansas City, has become a member of Jackson County Medical Society. Dr. Bence is a native of Broken Bow, Nebraska, received his preliminary education at Hastings College and his M.D. degree at the University of Nebraska in 1958. He specializes in orthopedic surgery.

William F. Benson, M.D., 336 Medical Plaza, Kansas City, has become a member of Jackson County Medical Society. Dr. Benson is a native of Kansas City, received his preliminary education at Dartmouth College and his M.D. degree at Northwestern University in 1959. He specializes in orthopedic surgery.

Terrence C. Bladow, M.D., Medical Arts Bldg., Joplin, has become a member of Jasper County Medical Society. Dr. Bladow is a native of Tucson, Arizona, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1962. He specializes in pediatrics.

Buford H. Burch, M.D., 420 Rockhill Medical Bldg., Kansas City, has become a member of Jackson County Medical Society. Dr. Burch is a native of Kansas City, received his preliminary education at the University of Missouri and his M.D. degree at Washington University in 1944. He specializes in thoracic surgery.

David W. Chapman, M.D., 10901 Winner Rd., Independence, has become a member of Jackson County Medical Society. Dr. Chapman is a native of San Francisco, California, received his preliminary education at Graceland College and his M.D. degree at the University of Missouri in 1961. He is in general practice.

Herbert A. Dempsey, M.D., 615 W. 3rd St., Lee's Summit, has become a member of Jackson County Medical Society. Dr. Dempsey is a native of Potosi, received his preliminary education at the University of Missouri and his M.D. degree at the University of Missouri in 1964. He is in general practice.

M. A. S. Hallaba, M.D., 410 Jackson, Joplin, has become a member of Jasper County Medical Society. Dr. Hallaba is a native of Damascus, Syria, received his preliminary education at Mission Laique Francaise d'Alexandrie and his M.D. degree at the University of Alexandria in 1954. He specializes in general and vascular surgery.

Dallas A. Johnson, M.D., 200 Rockhill Medical Bldg., Kansas City, has become a member of Jackson County Medical Society. Dr. Johnson is a native of Alden, Iowa, received his preliminary education at State University of Iowa and his M.D. degree at the University of Iowa in 1961. He specializes in dermatology.

Harry V. Langeluttig, Jr., M.D., 824 S. Adams, Nevada, has become a member of West Central Missouri Medical Society. Dr. Langeluttig is a native of Baltimore, Maryland, received his preliminary education at Johns Hopkins University and his M.D. degree at the University of Maryland in 1961. He specializes in obstetrics and gynecology.

R. Gordon McAfee, M.D., 6400 Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. McAfee is a native of Johnson City, Tennessee, received his preliminary education at Tusculem College and his M.D. degree at the University of Tennessee in 1952. He specializes in psychiatry.

Wayne Ellis Mason, M.D., 6700 Troost, Kansas City, has become a member of Jackson County Medical Society. Dr. Mason is a native of Des Moines, Iowa, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1961. He specializes in radiology.

William B. Payne, M.D., 6400 Prospect, Kansas City, has become a member of Jackson County Medical Society. Dr. Payne is a native of Olathe, Kansas, received his preliminary education at the University of Kansas and his M.D. degree at the University of Kansas in 1958. He specializes in dermatology.

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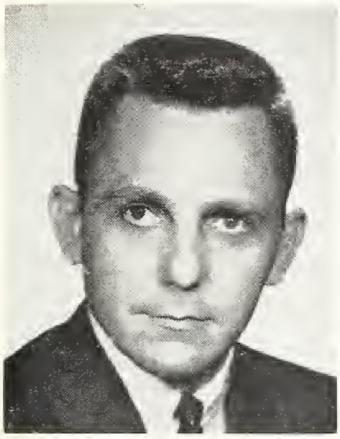
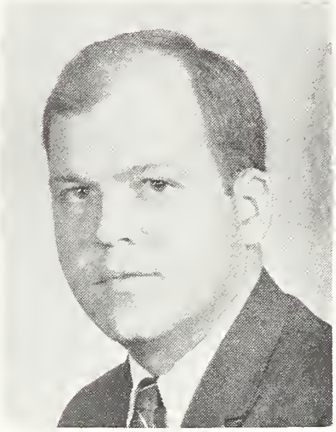


Charles L. Digiovanni
Affton, Missouri
853-6069



James Howard Johnson
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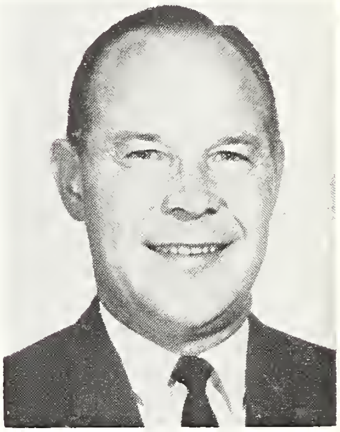
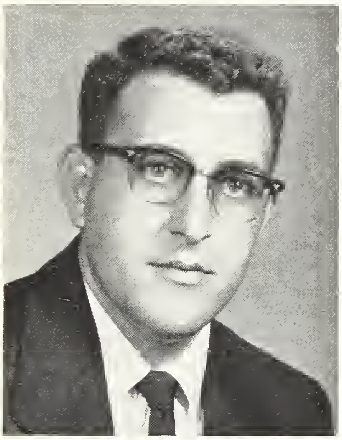
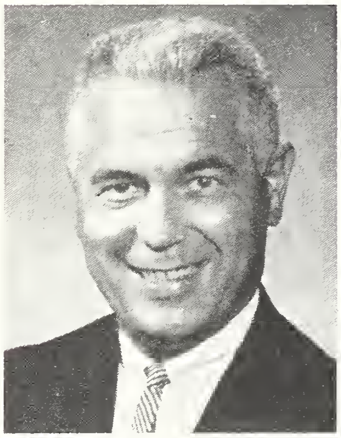
358-8377



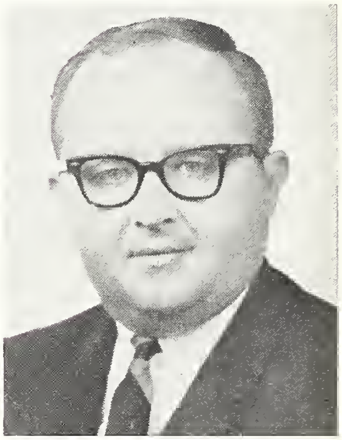
John Maloney
Shawnee Mission, Kansas
432-2352



James Smith
Joplin, Missouri
624-1035



Thomas Stolz
Crestwood, Missouri
961-4512



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In Memoriam

Gzell, Ronald, M.D., St. Louis, a graduate of National University of St. Louis, 1916; member of St. Louis Medical Society; aged 81; died June 25, 1967.

Coleman, William G., M.D., St. Louis, a graduate of Washington University, 1919; member of St. Louis County Medical Society; aged 74; died August 7, 1967.

Tadlock, Baxter W., M.D., St. Joseph, a graduate of Ensworth Medical College, 1907; member of Buchanan County Medical Society; aged 90; died August 21, 1967.

Bernstorff, Paul H., M.D., St. Louis, a graduate of St. Louis University, 1921; member of St. Louis County Medical Society; aged 71; died August 25, 1967.

Hope, James L., M.D., Lebanon, a graduate of University of Kansas, 1934; member of Mid-Missouri County Medical Society; aged 59; died September 12, 1967.

McDonald, George, M.D., St. Louis, a graduate of St. Louis University, 1935; member of St. Louis Medical Society; aged 58; died September 17, 1967.

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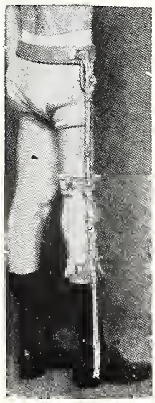

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ENT practice and office space in North Kansas City, Mo. available immediately for a very nominal sum, due to the death on April 1967 of Maurice W. Chastain, M.D. Close to hospital facilities. Excellent opportunity for someone who desires to follow a successful established practice of high calibre. Contact Mrs. Chastain, 2016 Swift Street, North Kansas City, or call BA 1-1430 or GL 2-4061.

I WILL RETIRE May 1, 1968. Have available for very nominal sum a completely furnished nine room suite with X-ray. Close to large hospitals. Excellent opportunity for someone who desires a ready-made practice of high caliber. Gordon P. Barnett, M.D., 751 E. 63rd Street, Suite 368, Kansas City, Mo. 64110. Phone JA 3-4466.

FOR RENT—809 square feet of office space on Country Club Plaza. Physicians or allied professions only. Contact Mrs. Adams, 6101 Martway, Mission, Kansas, or call HE 2-9117.

WANTED—Young general practitioner for associate or partner immediately. Need help in very busy practice in Jefferson City, Mo., 30 miles from University of Missouri Medical Center and 40 miles from Lake of the Ozarks. All advantages of a town of 25,000: symphony orchestra, good schools (public and private), parks, four-year University, fishing and hunting nearby. Financial arrangements extremely flexible. Grossing $60,000 plus after one year practice. Am 30 years old, family man, member of AAGP and Alpha Omega Alpha, pilot and avid hunter and fisherman. Contact Box 335, c/o Missouri State Medical Association, 515 E. High, Jefferson City, Mo. 65101.

WANTED—General practitioner to work with established surgeon in the metropolitan St. Louis area. Salary first year, then partnership if desired. I have staff privileges at St. Josephs Hospital in St. Charles and St. John's Mercy in St. Louis. Contact Box 341, c/o Missouri State Medical Association, 515 East High Street, Jefferson City, Mo. 65101.

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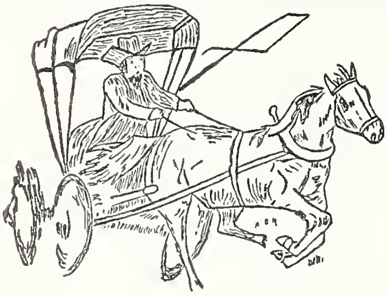
Missouri Medicine in Review



FORTY YEARS AGO

Although much is needed in the way of enlightenment on the subject of love, not much stress has been placed upon it. Therefore, we are glad to recommend Dr. Joseph Collins' new book, *The Doctor Looks at Love and Life.* The truth about sex is a large order. No one knows the whole truth. If he did, he would not be allowed to tell it. Church, convention and commerce do not want it and will not have it. Mankind has two fundamental urges: to stay alive and to reproduce his kind. The purpose of mankind, like that of all creation is reproduction; the nutritional urge is an accessory and contributory. A third urge, not fundamental but one that has possessed man during the entire period of recorded history, is the self-expression urge. Love is the impelling force throughout our lives. There are many causes for the frequent failures of matrimony, and the responsibility for these comes mainly from two sources—jealousy and adult-infantilism. The author discourses at great length on the character of the late William Jennings Bryan who, he says, exerted a more pernicious influence upon this country than any man of his time. He declares that Bryan's infirmity was adult-infantilism.

TWENTY-FIVE YEARS AGO

Dr. Lawrence T. Post, St. Louis, has been elected President-Elect-of the American Academy of Ophthalmology and Otolaryngology. He will take office on January 1, 1944.—Dr. Sherwood Moore, St. Louis, was elected President-Elect of the American Roentgen Ray Society at the Society's 43rd annual meeting in Chicago.

Our Army is a young army. It needs young doctors of troop age, 45 years or younger—men who can work in the field hospitals, mobile hospitals and other medical installations. Doctors above this age should take care of civilian medical needs, a necessary patriotic service, unless a position vacancy awaits them in military service. The patriotic spirit of our country is and must continue to be reflected in the response of our doctors to this call to arms. If you are in the age group needed, complete your application. Your Army needs you! Your Nation awaits your action!

The Nodaway-Atchison-Gentry-Worth Counties Medical Society held a dinner meeting at the Linville Hotel, Maryville. Dr. Charles T. Bell, President, presided. Members present were Drs. J. M. Boyles, Benjamin F. Byland, Leslie E. Dean, William R. Jackson, Robert C. Person and William M. Wallis, Maryville; Charles D. Humberd, Barnard; Henry C. Bauman, Fairfax; John M. Davis, Claude D. Haskell and Clifton M. Waugh, Tarkio; Samuel E. Simpson, Stanberry.

TEN YEARS AGO

The *Cape Girardeau County Medical Society Journal* was selected to receive the 1957 Honor Award for Distinguished Service in Medical Journalism in Class 3B (medical periodicals of county or city medical societies with membership of less than 500 members and whose organization does not employ an executive secretary or manager). This award, consisting of a citation plaque, is given annually by the American Medical Writers' Association. This medical society journal has had, to date, four editors. They are: D. R. Seabaugh, M.D., Cape Girardeau (1952-53); J. H. Trolinger, M.D., Jackson (1954); Milton Shoss, M.D., Cape Girardeau (1955), and J. H. Keim, M.D., (1956-57). The membership of the Cape Girardeau County Medical Society numbers 49.

The Missouri State Sanatorium at Mount Vernon recently celebrated its Golden Jubilee. Charles A. Brasher, M.D., is the Medical Director of the institution. The Missouri State Sanatorium, created by the 43rd General Assembly, was the first state institution of its kind west of the Mississippi. There are now 435 patients. To date, 27,000 persons have been treated there.

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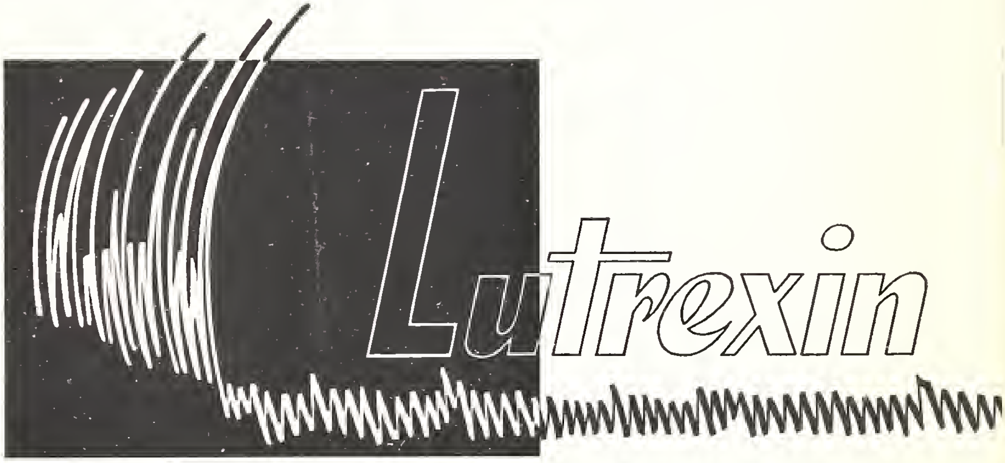

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Missouri Medicine

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All material other than scientific should be received prior to the first of the month preceding month of publication.

Please give notice of change of address at least one month in advance of the change, giving old and new addresses.

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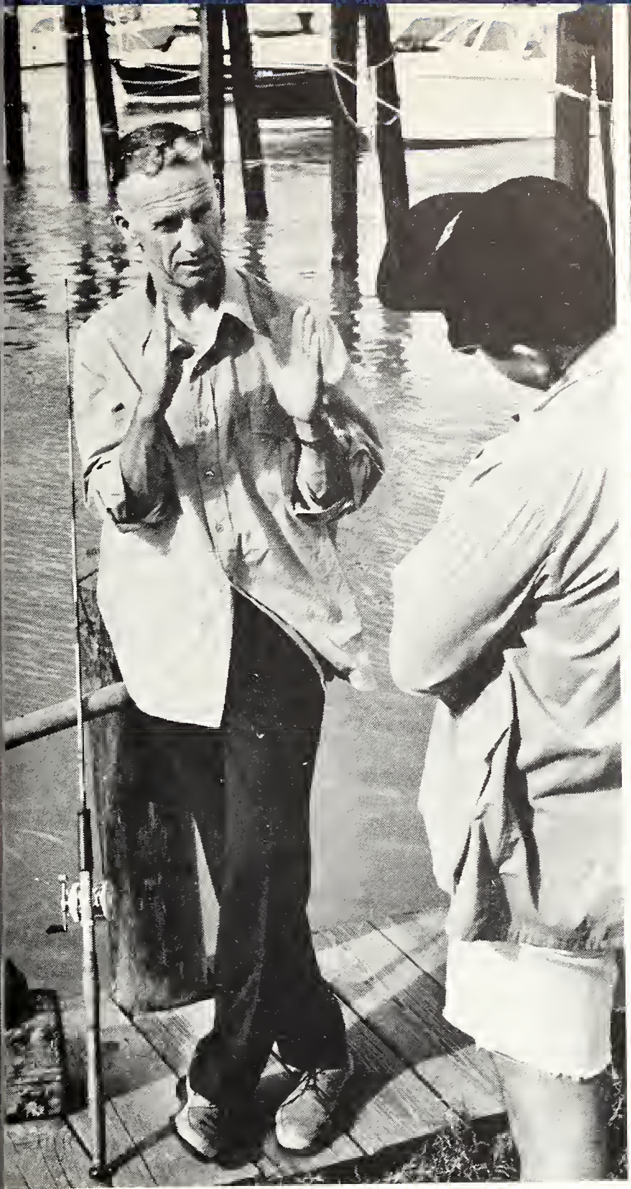

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References: 1. Batterman, R. C., and Grossman, A. J.: Fed. Proc. *14*:316, 1955. 2. Goodman, L. S., and Gilman, A., ed.: The Pharmacological Basis of Therapeutics, ed. 3, New York, The Macmillan Company, 1965, p. 331. 3. Roth, J. L. A., *et al.*: Gastroenterology *44*:146, 1963. 4. Conney, A. H., and Burns, J. J.: J. Pharmacol. Exp. Ther. *128*:340, 1960. 5. Settel, E.: Clin. Med. *6*:1373, 1959. 6. Berman, H. H., *et al.*: Dis. Nerv. Syst. *25*:430, 1964. 7. Darienzo, C.: Ibid., *27*:189, 1966.

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Notes of interest from Here . . . . and There

Dr. Stanley Peterson has been named a consultant for the Missouri Regional Medical Program for the Springfield area.—**Dr. Lawrence K. Epple**, Mexico, is the newly elected president of the Missouri Military Academy Alumni Association.

The Southeast Missouri Hospital in Cape Girardeau has opened its expanded radiological facility which includes cobalt therapy. The Radiology Department is under the direction of **Drs. Milton Shoss, Harold B. Rapp** and **Earl W. Johnson.**

Dr. James T. Brown, Springfield, has been appointed to a four-year term on the State Board of Registration for the Healing Arts by **Governor Warren E. Hearnes.** He succeeds **Dr. H. G. Parker**, Platte City, whose term expired. —**Dr. Danny Lee Dodson**, Monroe City, was named to the State Water Pollution Board for a term ending March 26, 1968. He succeeds the late **W. C. Hewitt.**

Dr. Robert Miller, member of the Scottish Rite Valley of St. Louis, was awarded the 33rd honorary degree, the highest in Scottish Rite Freemasonry, at the biennial meeting of the Supreme Council of the Scottish Rite, Southern Jurisdiction in Washington, D. C. The degree is bestowed for outstanding civic and religious service, as well as to Freemasonry and the Scottish Rite.

The Missouri Ophthalmological Society, Inc. has presented a Gold Medallion Award in recognition of "distinguished achievement" in ophthalmology to **Dr. John A. Buesseler**, Columbia. Dr. Buesseler, professor of ophthalmology at the University of Missouri Medical Center, founded the Society in 1963 for the purpose of improving medical eye care for the people of Missouri. To accomplish this purpose, the Society provides a forum to give ophthalmologists from the metropolitan areas and smaller communities an opportunity to exchange professional ideas and information and to become better acquainted professionally.

Drs. T. W. Garrison, Jr., D. B. Holley and **B. M. Carnell** greeted approximately 500 guests at the opening of their new Camdenton Medical Center recently. The Medical Center was built after a fire destroyed their former offices in Camdenton.

Dr. Samuel V. Rodgers, Kansas City, has been named as director of the new neighborhood health center at Wayne Miner court. The appointment was made by **Dr. Edwin O. Wicks**, city health director, after it was approved unanimously by a group of representatives of various medical and dental societies and of the poor. The group will serve as an advisory council to Doctor Rodgers.

Dr. Paul Baldwin, Kennett, was presented a 25-year plaque for service as Medical Advisor to the Dunklin County Selective Service Board No. 35. A Certificate of Appreciation was issued by President Lyndon B. Johnson; Lewis B. Hershey, National Director of Selection Service; Governor Warren E. Hearnes; and L. B. Adams, Jr., State Director of Selective Service.

CHARLES L. HUDSON, M.D.
Immediate Past President
American Medical Association

The Changing Medical Climate of America

Special Feature

A new climate is rapidly developing in the United States—in society, in economics and in government. As a part of this new climate, the practice of medicine, too, is changing. Physicians and their professional societies must not only change along with society and the profession, but they must guide and control the changes. Doctor Hudson suggests some guidelines for such leadership.[*]

In Las Vegas last November at the AMA Clinical Convention, I proposed that the AMA, state and county medical societies launch a continuing program, under predominantly private auspices, to improve existing health care services and establish services where they do not exist for all persons of whatever age, race, creed or color.

This program will vary from one community to another and will require substantial support and cooperation from non-medical, civil-minded groups. I consider this kind of program a top-priority AMA obligation.

Governmental involvement with so-called social insurance is less important in the form of Medicare as it is now, than the form it may take in the future. Our best efforts for containment will be to eliminate the areas where need for health care is apparent.

Public reaction has been excellent to this proposal, and many people are looking to the practicing physicians to supply leadership in the attack on the medical needs of the poor.

The medical profession also is reacting.

Dallas Commission

In December, for example, the Board of Directors of the Dallas County Medical Society adopted a report authorizing the establishment of a Health Services Commission under the auspices of the society.

The Commission being set up in Dallas County will have 40 members, of whom ten will be members of the Dallas County Medical Society. The other 30 will be representatives of the public, the consumers of medical care and of all interested agencies involved in the planning or providing of health and medical care to the people of that county.

Other examples could be cited of the attempts to implement the relatively new acceptance of physician responsibility for over-all community health. A new climate is rapidly developing in this country . . . in society, in economics and in government. It will be the environment in which we live in the years to come.

As citizens, we are interested in, and affected by, every factor which is contributing to the development of this new climate. As physicians, however, our concentration must be focused primarily on the effect the climatic change will have on the practice of medicine and the delivery of health care to the people of our country.

Physician Responsibility

As a part of this new climate, both affected by it and contributing to it, the practice of medicine is changing. Physicians and their professional societies must not only change along with it, but must guide and control the changes. The long-established methods that have served our profession and our patients so well in the social, economic and political climate of the past need to evolve as time passes and change takes place in society.

---

[*] From an address delivered by Dr. Charles L. Hudson, then President of the American Medical Association, at the Annual Luncheon of the Texas Medical Association, May 6, 1967, in Dallas. Reprinted by permission of *Texas Medicine*.

Recommendations significantly concerning the overall field of medicine were set forth in detail by the report of the National Commission on Community Health Services. Even though all segments of our profession do not accept the report of the Commission as valid, that report, nonetheless, must be considered in our future actions. It expressed a philosophy that health is no longer only a personal matter; health has become a community affair.

Other governmental health programs, including Medicare; Title 19; the heart disease, cancer and stroke program; Appalachia; and the comprehensive health care programs of the Public Health Service and others emphasize regional and community action to organize new forms of health care provision. The AMA has alerted physicians and their state and county societies to the need for active participation and especially leadership in these programs.

Community-wide planning for the health care of all citizens has become a recognized obligation. The only question unanswered is who shall meet the obligation. The leadership in the planning will naturally devolve on those who not only are best qualified to deal with it, but on those who are most willing to take the responsibility.

Fortunately, we find that physicians and their medical societies, at local, state and national levels, are increasingly accepting the responsibility of encouraging and initiating plans for more comprehensive community health services. Where physicians and their societies do not accept the leadership responsibility which should be theirs because of training and qualification, they will find that the planning and implementation will be carried on without them and it most likely will be to their own disadvantage once they start living with programs designed without their participation.

It is necessary to review some of the problems which make the changes necessary.

Growth in Demand

All of the problems are ramifications of one underlying circumstance: the increased demand for medical services, a demand that has assumed proportions of a generally unanticipated size. A few of the principal factors contributing to this growth in demand are:

1. Improved health education on the part of the public. Government at every level, voluntary health agencies and professional associations like our own have spent millions of dollars expounding the advantages of early diagnosis and more comprehensive care.

2. Change in the individual's concept of personal responsibility where the financing of health care is concerned. This has been brought about by the rapid growth of voluntary health insurance; by benefit plans of labor unions and corporations which provide services totally paid for by the employer; and by the proliferation of government health programs, at federal, state and local levels, which have stimulated demand particularly among the low- and medium-income groups at whom the benefits are primarily aimed.

3. Increasing effectiveness of medical care. A person can get much better care from a physician today than he could a generation ago, or even a decade ago. Every advance has made medical service more attractive and more desirable to the public.

4. Growth of our nation's economy since World War II. This growth has made possible increasing amounts and quality of both goods and services to a greater number of people than ever before. As the gross national product has risen from less than $300 billion in 1950 to nearly $700 billion in 15 years, national expenditures for health also have risen—to nearly $40 billion, Barring major economic or international disruption, it appears that the nation's health expenditures will continue to expand rapidly.

Increase in Government Participation

This substantial expansion of the health care system must be of major concern to those responsible for training all types of health personnel, as well as to those charged with organizing and administering health services. The time allowed for our exertion of leadership in this tremendous growth is relatively short. One of these days, the Vietnam war will end. It is possible that when it does, the billions of dollars our government is now spending to fight the war will be returned to taxpayers. However, much of it can be expected to be channeled into the health field through new programs and expansion of present programs to plan and provide health care for the people.

The development of governmental health care programs seems awesome enough now. But we can only imagine the giant steps it will take once a portion of the money that now supports a war is available to support increased domestic programs.

What the medical profession does or does not do in the very near future will determine, to a large extent, the degree of leadership it will be able to exercise over the planning and providing of health care to the people of this country. The profession cannot delay, because the changing climate will not wait.

In seeking leadership, we cannot reasonably hope to meet the challenges through a simple multiplication of numbers. For example, the United States now has something more than 300,000 physicians, of whom 185,000 are in private practice and the rest are providing service in settings other than private practice, are in research, are completing internship or residency training, are in teaching or administration or have retired or no longer practice.

New medical schools are developing; but because of the need to draw men out of practice and into the faculties of schools, the net gain will not be felt until these schools have been in operation a number of years.

The health services field is the nation's fastest-growing employment field. It is now the third largest, behind agriculture and construction. It is expected to be first by the early 1970's.

In its November meeting in 1966, the House of Delegates of the AMA reaffirmed its interest in and support of the advancement of education and training of allied health professional and technical personnel.

The size and significance of the challenge before us makes it unlikely we shall meet the needs only through the increase of numbers. Instead, we must seek and find a whole new structure and organization for the provision of health care.

New Ideas

We need new systems of delivery. And more important, basic to the design and development of new systems, we must recognize, if not necessarily accept, some ideas that appear to run contrary to what we have traditionally believed.

One of the new ideas is the doctrine that medical care is a right of every citizen. This theory is actually a compliment to the medical profession. Scientific medical care has become so desirable, so acceptable and so essential that it is accepted as a human right. We have always accepted the fact that everyone is entitled to good medical care. The millions of man-hours that physicians have given the charity cases or to patients they knew could pay only a small portion of their customary charge proves such an acceptance. Organized medicine is on record as favoring the provision of health care for those who are unable to finance it for themselves. The public and the representatives of the people in government more and more are going to demand that what they call this right be met.

A second idea is that when the patient of tomorrow presents himself for medical care, he will not so much enter a doctor's office as he will step into a complex system of medicine involving many individuals. This is already true to a great extent. As specialization has increased, it has become possible for the patient to have access to experts in a number of different fields, receiving help from one or more of them under the direction and at the request of his own physician. Medicine in the future will be only a further elaboration and perfection of the present system, in which the physician will have, virtually at his elbow, every kind of specialist and every type of ancillary personnel whose individual skills can help him do a better job for his patient.

A patient goes to a physician for help. Help is what he will get in the future as now, only it will be better than he has ever been able to get before. But he will not always be able to get whatever he needs from any single physician. That will become even more true than it is today as the increasing demand for service makes the physician's time more crowded than it is now.

The physician of the future will work under a new job description. Along with his medical responsibilities, he will have to accept and execute managerial functions. Rather than being the doctor of a generation ago who did everything that had to be done for the patient, the physician of the future will be a coordinator among the many persons who will combine their efforts to give his patient the care that is needed, whether preventive, diagnostic, therapeutic, convalescent or rehabilitative.

This does not necessarily mean entering group practice. An association can be maintained on an informal as well as formal basis. But it does seem that some kind of grouping or association is needed in order to coordinate the services of various physicians along with the various clerical and allied occupational and professional people to provide high quality, comprehensive care.

The third idea is that it is not enough for the physician to do a good job with his own practice. He must feel a responsibility, and execute his responsibility, regarding the entire pattern of health care throughout the community.

Wherever, in the community, a person becomes ill or suffers an accident, it is the medical profession's responsibility to see that the community has a mechanism to care for him and to see that the mechanism is well-organized and effective. Physicians must accept the responsibility for everything from the training of ambulance drivers to hospital emergency room procedures to the availability and training of allied medical personnel. The physician's responsibility as a member of the medical profession must extend beyond his traditional relationship with an individual patient. While most persons will be treated within the community's health system by one or only a few physicians, every physician in the community shares equal responsibility for the efficient working of an overall system.

The system, the pattern of health care in the community, must be so established that service is available where needed and when needed, 24 hours a day, seven days a week. This calls for a great deal of skillful organization, and emphasizes the managerial functions that are rapidly becoming a new and vital part of the physician's job description.

More Classes of Medical Care

Because this is a free country and because physicians have always fiercely defended the freedom of their profession (and rightly so), we have the privilege of not accepting any of these responsibilities. At the present time, nothing can coerce the profession into establishing community systems for comprehensive health care.

We can continue to let people outside of our profession draw the blueprints with which we must build the practice of medicine. Whoever has designed systems of indigent care in the past, for example, has managed to create two classes of medical care in this country where there formerly was only one.

Because we are free, we can let this division continue and multiply. It is conceivable, looking at the present situation, that we might one day have several more classes of medical quality: one for the indigent; one for the aged; one for children; and one, presumably the best, for the few remaining persons who pay for their own care.

Or we can take the leadership in designing and building a completely integrated, excellent system of community health care for all citizens. If the system is to be excellent, it must be designed and implemented by physicians with their perception of the real problems of medicine. We cannot hope to see a system which we consider good, and in which we are glad to practice, if we permit it to be designed by non-physicians, whoever they may be.

Health care is not exclusively the domain of the private practicing physician, of the government, of state health departments, of academic institutions, nor of the many welfare agencies, public and private, who are interested in it. It is the responsibility of all of them, and a good system can only result from the amalgamation and coordination of all of those elements.

But someone must be the leader. Someone must blend the efforts of all of the separate segments of interest into one program, system or mechanism to provide comprehensive health care within each community and throughout the nation.

Factors for Leadership Need

I believe that leadership must be assumed by the medical profession. There are five factors in this belief:

1. We have a moral obligation to back up with action what we maintain—that we shall see to it that everyone has access to good health care.
2. We cannot afford to ignore a segment of the population that will be able, in the future, to sustain private practice.
3. We must deny criticism that we "have it so good" practicing among more favored individuals that we can overlook those less favored.
4. We must take every opportunity to emphasize the principle that free care is only for the needy.
5. We must be in at the planning stage of any innovations in the delivery of health care.

If the privately practicing segment of medicine, through its organizations, does not lead in the establishment of the system, one or more other segments of society will do so, most likely, to the disadvantage of patients and of the private practitioners.

Locally and nationally, we in medicine have wanted and expected the support of community leaders for our cause, that of free medicine. They are people who have many problems. If we expect to gain their support for our problems, we are going to have to show them that we are working diligently to solve at least one of theirs. We won't get them on our side by ignoring them or by working against their efforts which we feel overlap our domain.

Prescribed Formula

My formula for beginning this tremendous job is a simple one to describe.

First, the local medical society must make a public commitment. It must put itself and its members on the line as undertaking the establishment of a comprehensive community health system.

Second, it must take the initiative in drawing together all of the elements of the community that have a legitimate interest in health care, to mobilize their combined efforts in a study of existing health facilities and existing needs within the community.

And third, again it must take the lead in cooperation with all of the combined elements in establishing a program to meet whatever needs are discovered.

The AMA and its staff stand ready to help in any possible way. But every society that wants to undertake the responsibility must recognize that local problems are local. They are not susceptible to grand regional or national solution. It is imperative that each society critically study its own communities and the population therein to find specific methods to solve its own specific problems.

There is no other way the job can be done. If it is attempted on any grander scale than the community level, then we would be making exactly the same mistake that government has made in the past in trying to develop a national solution and make it work in every local situation.

Regardless of what we have done or not done in the past, we must realize now that what we do or fail to do, beginning now, will have a profound effect on the system under which health care is delivered in the future and an equally profound effect upon professionals involved in that system of delivery.

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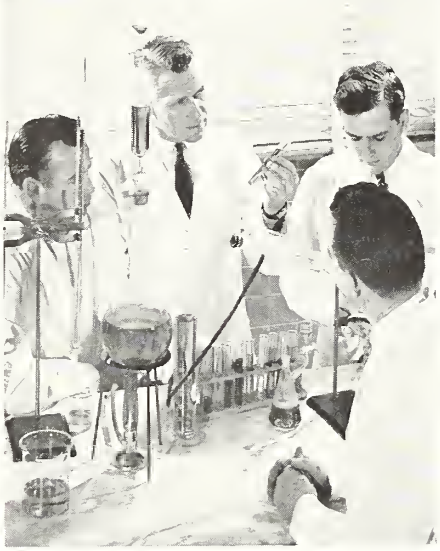

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Diagnosis:

cystitis?
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pyelitis?
urethritis?
prostatitis?

in any case,
usually gram-negative*

Therapy:

two 500 mg. Caplets® q.i.d
(initial adult dose)

NegGram
Brand of
nalidixic aci
a specific anti-gram-negative

eradicates most urinary tract infections...

- Low incidence of untoward effects; no fungal overgrowth, crystalluria, ototoxic or nephrotoxic effects have been observed.
- "Excellent" or "good" response reported *in more than 2 out of 3* patients with either chronic or acute gram-negative infections.[1]

*As many as 9 out of 10 urinary tract infections are now caused by gram-negative organisms: E. coli, Klebsiella, Aerobacter, Proteus, Paracolon or Pseudomonas[2]... However, infections of the urethra and prostate caused by non-gonococcal gram-negative organisms are believed to be less prevalent.

Summary of prescribing information

Indications: Urinary tract infections in which gram-negative bacteria are predominant, particularly *Proteus, Escherichia coli, Aerobacter, Klebsiella,* and certain strains of *Pseudomonas*. Gram-positive bacteria are less sensitive to NegGram but favorable clinical results have been observed.

Warning: Use in Pregnancy. This drug is not recommended in the first trimester of pregnancy. However, it has been used in several patients during the last two trimesters without producing apparent ill effects in either mother or fetus.

Precautions: As with all new drugs, periodic blood and liver function tests are advisable during treatment longer than 1 or 2 weeks. **This drug should be used with caution in patients with liver disease, epilepsy, severe cerebral arteriosclerosis, or severe impairment of kidney function.** Because photosensitivity reactions have been reported in a small number of cases, patients should be cautioned to avoid unnecessary exposure to direct sunlight while receiving NegGram, and if a photosensitivity reaction occurs, therapy should be discontinued. The dosage recommended for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Should bacterial resistance develop or additional nonsensitive strains emerge, other effective antibacterial agents should be added to or substituted for NegGram.

When testing the urine for glucose in patients receiving NegGram, Clinistix® Reagent Strips or Tes-Tape® should be used since other reagents may give a false-positive reaction.

Adverse reactions: Mainly mild nausea, vomiting, and other gastrointestinal disturbances; less frequently, sleepiness, drowsiness, weakness, headache, dizziness and vertigo, and rarely cholestasis, paresthesia, thrombocytopenia, leukopenia, or hemolytic anemia in patients with a deficiency in activity of glucose-6-phosphate dehydrogenase. Itching, pruritus, rash, urticaria, mild eosinophilia, reversible photosensitivity reactions primarily involving exposed surfaces, and reversible subjective visual disturbances (overbrightness of lights, change in visual color perception, difficulty in focusing, decrease in visual acuity and double vision), occurred occasionally. Reversible increased intracranial pressure with bulging anterior fontanel, papilledema, and headache has been observed occasionally in infants and children. Toxic psychosis and brief convulsions (the latter generally in patients with possible predisposing factors, and both usually associated with excessive dosage) have been recorded in rare instances.

Dosage and administration: ***Adults*—Four Gm. daily by mouth (2 Caplets® of 500 mg. four times daily) for one to two weeks. Thereafter, if prolonged treatment is indicated, the dosage may be reduced to two Gm. daily (1 Caplet of 500 mg. four times daily). *Children*—According to age and weight: approximately *25 mg. per pound* of body weight per day, administered in divided doses.**

Note: The dosage recommended above for adults and children should not arbitrarily be doubled unless under the careful supervision of a physician. Until further experience is gained, infants under 1 month should not be treated with the drug.

How supplied:
- **For adults**—Buff-colored, scored Caplets of **500 mg.**, conveniently available in bottles of 56 (sufficient for one full week of therapy) and in bottles of 1000.
- **For children**—Caplets of **250 mg.**, available in bottles of 56 and 1000.

Before prescribing, please refer to complete prescribing information.

References: (1) Based on 23 clinical papers, 1512 cases. Bibliography on request. (2) Bush, I. M., Orkin, L. A., and Winter, J. W., in Sylvester, J. C.: Antimicrobial Agents and Chemotherapy—1964, Ann Arbor, American Society for Microbiology, 1965, p. 722.

Winthrop
Winthrop Laboratories, New York, N. Y. 10016

ELLIS FISCHEL STATE CANCER HOSPITAL and CANCER RESEARCH CENTER PROFESSIONAL PROGRAM

Saturday, December 16

9:00 AM Welcome—Reginald P. Pugh, M.D., Program Director, Assistant Professor of Medicine, University of Missouri School of Medicine, and Chief of Internal Medicine, EFSCH.

PART I

9:05- 9:15 AM *What Are Some of the Current Concepts in the Management of Non-Surgical Malignancies?*, Robert E. Reed, M.D., Section Coordinator, Assistant Professor of Medicine (Hematology), University of Missouri School of Medicine.

9:15-10:00 AM *What Are the Mechanisms of Action of Certain Chemotherapeutic Agents and Ionizing Radiations on Normal Malignant Tissue?*, Matthew H. Block, M.D., Harlow Professor of Medicine and Chief, Division of Hematology, University of Colorado School of Medicine.

10:00-10:45 AM *What Are the Present Concepts of Treatment of Lymphomas? Are Lymphomas Curable?*, Carl V. Moore, M.D., Professor and Chairman, Department of Medicine, Washington University School of Medicine.

10:45-11:05 AM Coffee

11:05-11:50 AM *What Cancer Chemotherapeutic Agents Are Currently Useful in Clinical Practice?*, Jesse Steinfield, M.D., Professor of Medicine and Chief of Medical Oncology Section, University of Southern California.

11:50 AM Panel Discussion and Questions—Reginald P. Pugh, M.D., Moderator; Matthew H. Block, M.D.; Jesse Steinfield, M.D.; Carl V. Moore, M.D.; and Graciela Serna, M.D., Assistant Scientist, Radiotherapy, Cancer Research Center.

12:20- 1:45 PM Luncheon

PART II

1:45- 2:00 PM Introduction: *Are There Any Recent Developments in the Pathogenesis and Treatment of Skin Cancer?*, Carlos Perez-Mesa, M.D., Section Coordinator, Associate Professor of Pathology, University of Missouri School of Medicine, and Chief of Pathology, EFSCH.

2:00- 2:45 PM *What Causes Cancer of the Skin? Can It Be Prevented?*, Robert Olson, M.D., Assistant Professor of Dermatology, University of Oklahoma School of Medicine.

2:45- 3:15 PM *What Is the Role of Topical Chemotherapy in the Treatment of Precancerous and Cancerous Skin Lesions?*, W. Mage Honeycutt, M.D., Assistant Clinical Professor of Medicine (Dermatology), University of Arkansas School of Medicine.

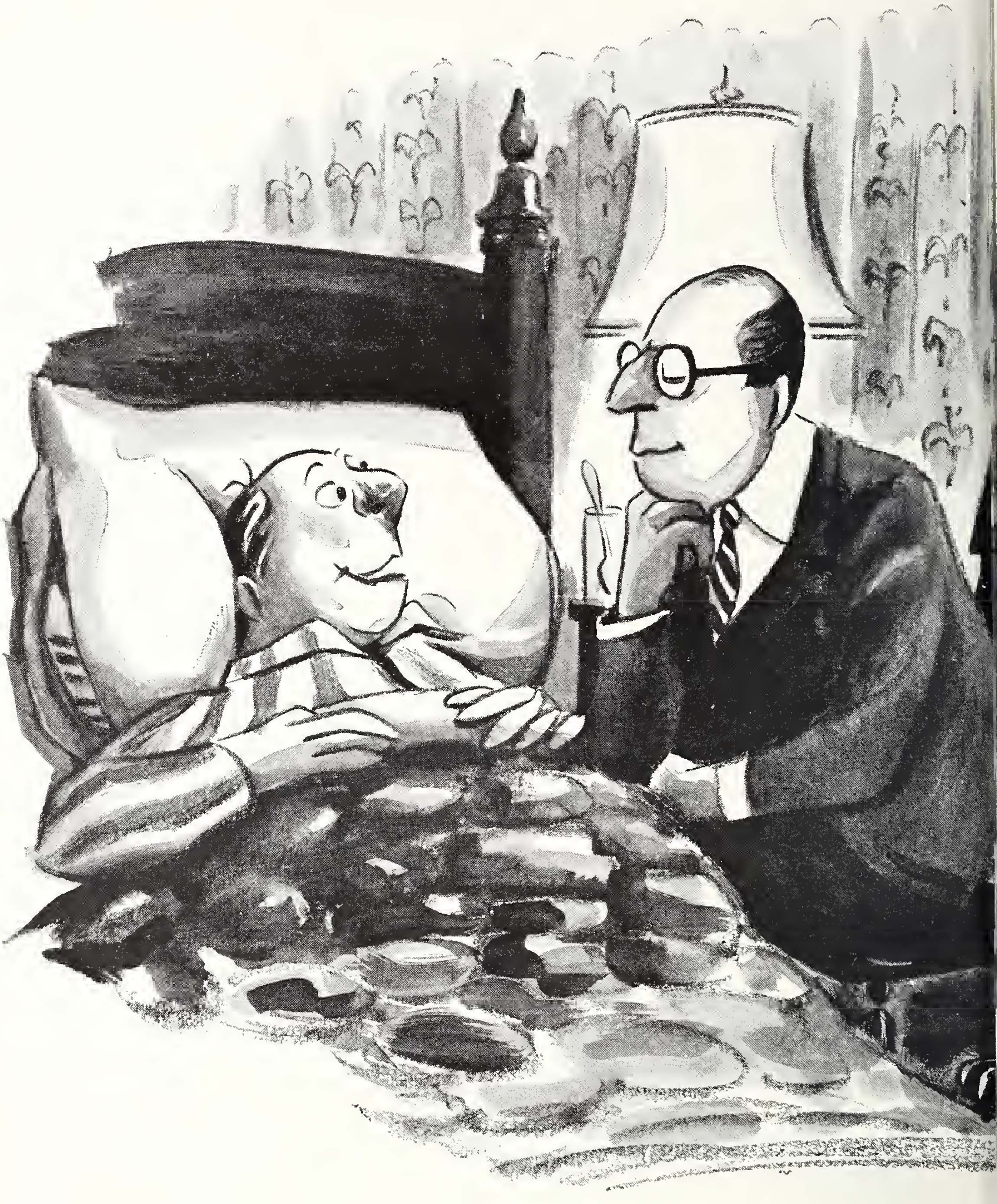
3:15- 3:45 PM *What Surgical Principles Are Important in the Treatment of Skin Cancer?*, E. J. Schewe, M.D., Clinical Associate Professor of Surgery, University of Missouri School of Medicine, and Consultant Staff Member and Former Chief Surgeon, EFSCH.

3:45- 4:00 PM Coffee

4:00- 4:30 PM *What Are the Indications and Results of the Treatment of Cancerous Skin Lesions With Non-Surgical Therapy?*, Howard B. Latourette, M.D., Professor, Department of Radiology, and Director, Division of Radiotherapy, University of Iowa Medical School.

4:30 PM Panel Discussion—Norman D. Asel, M.D., Moderator, Associate Professor of Medicine and Chief of Division of Dermatology, University of Missouri School of Medicine; Robert Olson, M.D.; E. J. Schewe, M.D.; Howard B. Latourette, M.D., and W. Mage Honeycutt, M.D.

6:00 PM Annual Ellis Fischel State Cancer Hospital-Cancer Research Center Christmas Party.



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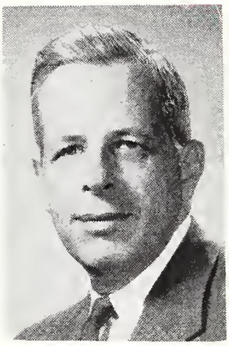

Dr. O'Reilly

Dr. D. Elliott O'Reilly, associate clinical professor of orthopedic surgery at the St. Louis University School of Medicine, has been named chairman of the department of orthopedic surgery and orthopedist-in-chief at the St. Louis University Hospitals, effective March 1, 1968. He will succeed Dr. Robert M. O'Brien, clinical professor of orthopedic surgery, who has resigned as chairman to devote more time to his private practice. Dr. O'Brien, who has been chairman of the department since 1949, will continue teaching orthopedic surgery at the St. Louis University Hospitals.

Dr. O'Brien, who received both his bachelor of arts and medical degrees from St. Louis University, succeeded as chairman Dr. O'Reilly's father, Dr. J. Archer O'Reilly.

Dr. D. Elliott O'Reilly is chief of the orthopedic section and director of the Cerebral Palsy Training Center at Cardinal Glennon Memorial Hospital for Children. He received a master's in orthopedics from St. Louis University in 1949 and took his internship and a residency in surgery at Barnes Hospital. He was a resident in orthopedics at the St. Louis University Group of Hospitals from 1947 to 1949 and a fellow in rehabilitation at New York University Bellevue Medical Center from 1949 to 1950.

A member of numerous scientific societies, Dr. O'Reilly is currently serving as president of the St. Louis Orthopedic Society, treasurer of the American Academy for Cerebral Palsy and as a councilor for the St. Louis Medical Society. He also is past chairman of the committee on physical medicine and rehabilitation of the Missouri State Medical Association.

Dr. Daniel L. Sexton, associate clinical professor of internal medicine at the School of Medicine, was the recipient of the alumni merit award in medicine conferred by St. Louis University. Dr. Sexton earned degrees from the College of Arts and Sciences and the School of Medicine. He joined the medical faculty in 1929 and has taught in the department of internal medicine since then while carrying on his private practice.

He has held the presidency of the American Therapeutic Society, Mississippi Valley Medical Association, Southern Medical Association, and St. Louis Diabetes Society. He has been actively engaged in civic, health, professional and charitable organizations including the Missouri State Medical Association. In 1957, he was chairman of the Mayor's Health and Hospital Survey Committee.

Ten graduate physicians were honored for their 25 years of service to the University at the annual faculty dinner in October. Honored with plaques were: Drs. Edwin J. Casey, associate

Bill O'Malley

"Now, when was it you first had this urge to give things away?"

clinical professor of ophthalmology; James F. Dowd, senior instructor in surgery; Jack R. Eidelman, assistant clinical professor of psychiatry; Joshua E. Jensen, senior instructor in surgery; Joseph M. Krebs, associate clinical professor of gynecology and obstetrics; Sam J. Merenda, senior instructor in radiology; Leo V. Mulligan, associate professor of clinical surgery; John Carroll Murphy, senior instructor in internal medicine; Robert Potashnick, assistant clinical professor of internal medicine; and Joseph E. Von Kaenel, assistant clinical professor of surgery.

Dr. Robert E. Olson, Alice A. Doisy professor of biochemistry and Chairman of the Department, delivered a paper before the International Heart Failure Symposium in Feiburg, Germany in October. While abroad, he also gave lectures at Oxford and Liverpool Universities.

MISSOURI UNIVERSITY

Dr. Marion S. DeWeese, chairman of the department of surgery at the University of Missouri, has been honored on two recent occasions by members of his profession.

He has been elected to the Board of Governors of the American College of Surgeons, filling the unexpired term of the late Dr. John J. Modlin of Columbia. This is one of four such positions on the National Board of Governors held by Fellows from the state of Missouri.

Dr. DeWeese also has been designated president-elect of the Frederick A. Coller Surgical Society. The organization is composed of approximately 225 surgeons throughout the United States, South America and England who received their surgical training under the supervision of Dr. Coller at the University of Michigan or have been trained by or closely affiliated with his trainees. Many of the members, including Dr. DeWeese, occupy chairs in surgery or other important academic appointments in medical schools. At Missouri University, Dr. DeWeese was chosen in 1965 as the first occupant of the W. Alton Jones Chair for a Distinguished Professor of Surgery.

WASHINGTON UNIVERSITY

Washington University School of Medicine has received a pledge of $1.4 million from James S. McDonnell and family for the establishment of a department of genetics. The McDonnell family previously pledged $4.7 million for construction of the McDonnell Medical Science Building which was launched in ceremonies in September and will house the new department.

Mr. McDonnell, who served on the University's board of trustees from 1961 to 1966 and on the Washington University Medical School and Associated Hospitals (WUMSAH) board from 1963 to 1966, said that the funds are for creating the department and for assisting in support of its operation during the first ten years.

The Medical School has inaugurated a series of lectures entitled "Genetics and the Space Age" in acknowledging the gift from Mr. McDonnell who is chairman of the board, McDonnell Douglas Corporation, the firm that manufactures the "Phantom" jet aircraft and the Mercury and Gemini space craft.

According to the Association of Medical Colleges Directory, only seven other universities have departments of genetics in their medical schools. They are Albert Einstein College of Medicine, Indiana University School of Medicine, University of Michigan Medical School, University of Pennsylvania School of Medicine, Stanford University School of Medicine, University of Wisconsin Medical School, and the University of Hawaii School of Biomedical Sciences.

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AMA Emergency Medical Conference in January

"The Community and Emergency Medical Services" will be the theme of a national conference sponsored by the American Medical Association on January 18-20, 1968, at the San Francisco Hilton Hotel, San Francisco, Calif.

During the two-and-one-half-day program, all aspects of a community's emergency medical services system will be discussed in terms of identification, coordination and implementation. This system includes: first aid and emergency care, transportation of the ill and injured, emergency communications and emergency facilities.

Special emphasis will be placed upon the development of Community Councils on Emergency Medical Services and ways and means of financing the community's emergency medical services system. Roles of the U. S. Department of Transportation, Public Health Service, state government and organized medicine also will be discussed.

The conference is open to all persons involved or interested in their community's emergency medical care. This includes physicians, allied health personnel, hospital administrators, providers of ambulance services, public safety officials (police, fire and sheriff), government officials (local, county and state), representatives of service organizations, planners, educators and private citizens. A cross-section of the various national leaders of the above groups will be featured on the conference program.

An added highlight will be industrial and organizational exhibits related to the various aspects of the emergency medical services system.

For further information, write to: American Medical Association, Department of Hospitals and Medical Facilities, 535 North Dearborn Street, Chicago, Illinois 60610.

Help your statewide office maintain an accurate mailing list. Send your change of address promptly to MISSOURI MEDICINE, 515 East High St., Jefferson City, Mo. 65101.

Continuing Education Coming Events

Dec. 6-8	**Kansas City Society of Ophthalmology and Otolaryngology** Refresher Course Plaza Inn Motel, Kansas City
Dec. 8	**Rehabilitation of the Deformed Individual** Continuing Education, M.U. School of Medicine Medical Center, Columbia
Dec. 12-15	**A Comprehensive View of Endocrinology and Metabolism** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Jan. 16-19	**A Comprehensive View of Cardiovascular Diseases** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Jan. 17	**Part 1—Introduction to Nuclear Medicine** Postgraduate Symposium in Nuclear Medicine Mallinckrodt Institute of Radiology Washington University School of Medicine, St. Louis
Jan. 17-18	**Peripheral Vascular Disease** Continuing Education, M.U. School of Medicine Medical School, Columbia
Jan. 18-19	**Part 2—Progress in Nuclear Medicine** Postgraduate Symposium in Nuclear Medicine Mallinckrodt Institute of Radiology Washington University School of Medicine, St. Louis
Feb. 6-9	**A Comprehensive View of Pulmonary Diseases** (4-day course) Menorah Medical Center, Kansas City (acceptable for AAGP credit)
Feb. 7	**Office Pediatrics** Continuing Education, M.U. School of Medicine Medical Center, Columbia

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Indications: Hypertension and many types of edema involving retention of salt and water.

Contraindications: Hypersensitivity and most cases of severe renal or hepatic disease.

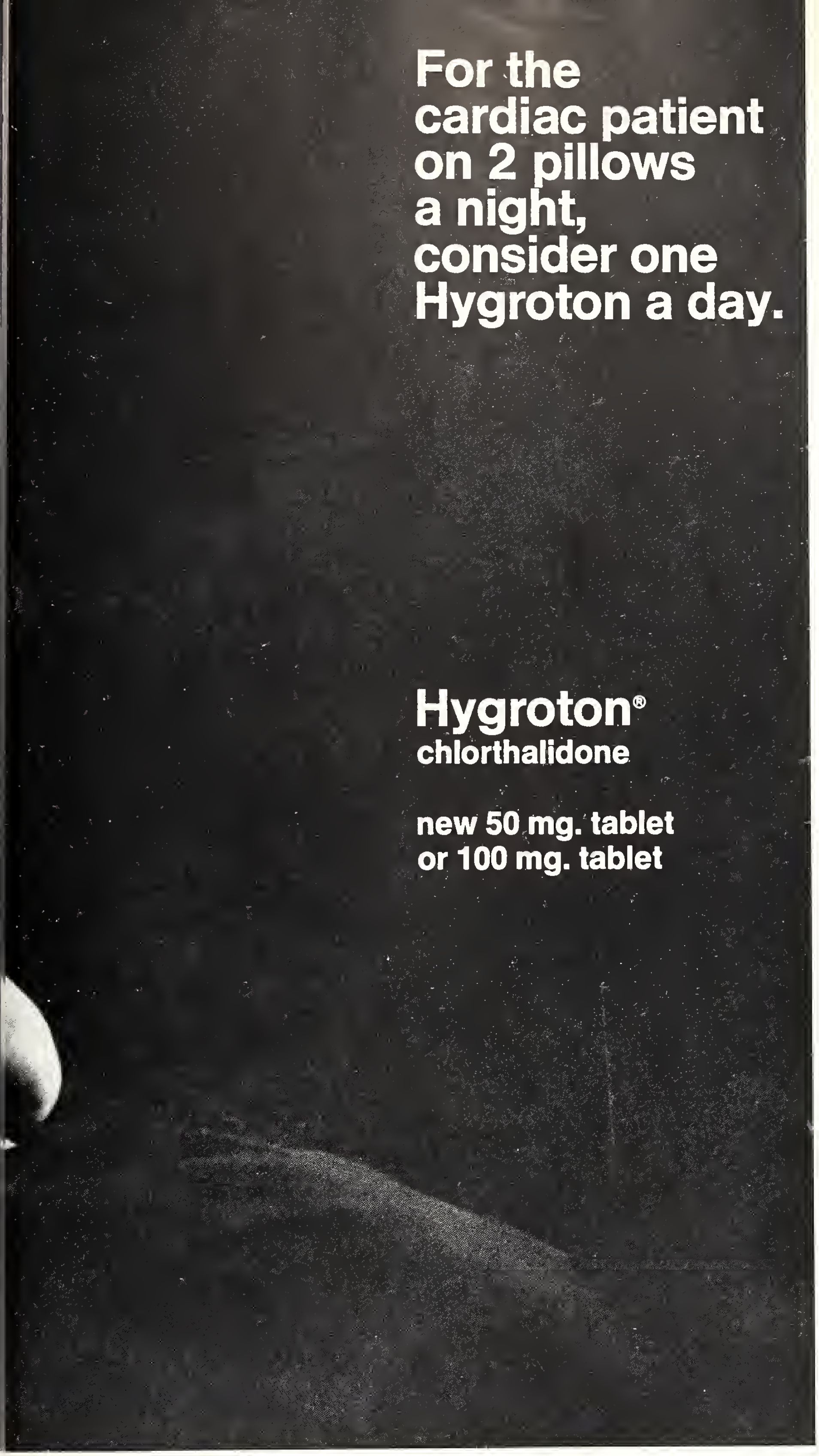
Warning: With the administration of enteric-coated potassium supplements, which should be used only when adequate dietary supplementation is not practical, the possibility of small bowel lesions (obstruction, hemorrhage, and perforation) should be kept in mind. Surgery for these lesions has frequently been required and deaths have occurred. Discontinue enteric-coated potassium supplements immediately if abdominal pain, distention, nausea, vomiting, or gastrointestinal bleeding occur.

Use with caution in pregnant patients, since the drug may cross the placental barrier and adverse reactions which may occur in the adult (thrombocytopenia, hyperbilirubinemia, altered carbohydrate metabolism, etc.) are potential problems in the newborn.

Precautions: Antihypertensive therapy with Hygroton should always be initiated cautiously in postsympathectomy patients and in patients receiving ganglionic blocking agents or other potent antihypertensive drugs, or curare. Reduce dosage of concomitant antihypertensive agents by at least one-half. Barbiturates, narcotics or alcohol may potentiate hypotension. Because of the possibility of progression of renal damage, periodic determination of the BUN is indicated. Discontinue if the BUN rises or liver dysfunction is aggra vated. Hepatic coma may be precipitated.

Electrolyte imbalance, sodium a or potassium depletion may occu If potassium depletion should oc cur during therapy, Hygroton should be discontinued and pota sium supplements given, provide the patient does not have marke oliguria.

Take special care in cirrhosis or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Hygroton®
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new 50 mg. tablet or 100 mg. tablet

She was the picture of arteriosclerotic heart disease in failure.
She couldn't sleep a wink without an extra pillow.
Then her doctor prescribed digitalis and Hygroton.

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Then her breathing improved — along with her urinary output.

Nights could be a lot more pleasant for patients like this in your practice.
Try it and see.

Hygroton therapy may also mean troublesome side effects for certain patients.
A summary of essential prescribing information is shown below.

severe ischemic heart disease and in patients receiving corticosteroids, ACTH, or digitalis. Salt restriction is not recommended.
Adverse Reactions: Nausea, gastric irritation, vomiting, anorexia, constipation and cramping, dizziness, weakness, restlessness, hyperglycemia, hyperuricemia, headache, muscle cramps, orthostatic hypotension, aplastic anemia, leukopenia, thrombocytopenia, agranulocytosis, impotence, dysuria, transient myopia, skin rashes, urticaria, purpura, necrotizing angiitis, acute gout, and pancreatitis when epigastric pain or unexplained G.I. symptoms develop after prolonged administration. Other reactions reported with this class of compounds include: jaundice, xanthopsia, paresthesia, and photosensitization.
Average Dosage: 50 or 100 mg. with breakfast daily or 100 mg. every other day.
Availability: White, single-scored tablets of 100 mg. and aqua tablets of 50 mg., in bottles of 100 and 1000.
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For full details, please see the complete prescribing information.

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*Warning: may be habit-forming

Synirin provides prompt barbiturate potentiation of aspirin without limiting the therapeutic usage of aspirin. Both pentobarbital and aspirin begin their action together promptly and last 4 or 5 hours. There is no accumulation.

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Dr. Barney W. Finkle Named President-Elect of MAGP

Barney W. Finkel, M.D., St. Louis, was elected President-Elect of the Missouri Academy of General Practice during the association's 19th Annual Scientific Assembly on October 21-22 at Tan-Tar-A Resort, Osage Beach.

Doctor Finkel is Regional Director of the American Association of Physicians and Surgeons and Chairman of the Public Education Committee of that organization. He also is Editor of *News & Views.*

Other officers of the Academy elected at the meeting are Drs. Paul A. Roberts, Sweet Springs, Vice-President, and Lois C. Wyatt, Kirkwood, Secretary-Treasurer. Appointments for three-year terms on the Board of Directors were as follows: Drs. Chester Clark, Trenton; Ernie Schaper, St. Louis; Ray Froehlich, Lebanon; and Alvan G. Karraker, Farmington. Dr. Schaper was elected to fill the unexpired term of Dr. Finkel. Dr. R. Stacy Long, Kansas City, outgoing President, will become Chairman of the Board.

Re-elected delegates to the American Academy of General Practice were Drs. Walter T. Gunn, St. Louis, and C. Gordon Stauffacher, Sedalia. Drs. Charles A. Nester, St. Louis, and Edson C. Carrier, Kansas City, were elected as alternate delegates.

All officers except the President-Elect will take office immediately for the 1967-68 term.

Dr. Kenneth E. Knabb, Springfield, was installed as President of the Missouri Academy for the coming year. The group's annual award for leadership in the improvement of health care in Missouri was presented to Senator William J. Cason, Clinton, who represents the 31st Senatorial District.

About 150 family physicians attended the two-day meeting.

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Dr. O. B. Barger Is Chairman Of New State Board of Health

O. B. Barger, M.D., Harrisonville, was elected chairman of Missouri's newly-created State Board of Health at its first meeting in November.

Al Fulenwider, Jackson, was elected vice-chairman and Ted O. Lloyd, executive director of the Missouri Hospital Association in Jefferson City, was appointed secretary.

Other Board members appointed by the Governor are William A. Knight, M.D., St. Louis; J. S. Denslow, D.O. Kirksville, College of Osteopathy and Surgery; Lester E. Cox, Springfield; and J. D. Chastain, Kirkwood.

The Board was created by the Legislature this year in its first step toward modernizing and revamping the State Board of Health. It was recommended by an advisory committee named by Governor Warren E. Hearnes in 1965 to "conduct a long-range and high-level study of Missouri's health program," following the resignation of acting director Dr. Henry M. Hardwicke.

The Division now is headed by Dr. L. M. Garner, also in an acting capacity.

The Board, a policy-making body, will promulgate rules and regulations, appoint the Director of Health and formulate the division's budget.

The statute, which went into effect in October, specified that three members be licensed physicians and the other four members be representatives of interests not regulated by the state Board of Registration for The Healing Arts.

"Horizon's Unlimited" Film Now Available at AMA

A new film depicting the wide range of rewarding career opportunities existing in fields allied to medicine is available for bookings.

The 28-minute color film, entitled "Horizons Unlimited" after the AMA's health careers handbook of the same name, gives brief, on-the-job glimpses of men and women serving in career pursuits highlighted in the publication.

The new film was developed solely by the AMA. Physicians, medical societies and other medical groups should place their orders for showings, stating preferred and alternate dates, with the Films Section, AMA, 535 North Dearborn, Chicago, Illinois 60610. Schools and other non-medical groups should direct their requests for loan of the film to Modern Talking Pictures, Prudential Plaza, Chicago, Illinois 60601.

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Volume 64, Number 12—December, 1967

Missouri Medicine

JOURNAL OF THE MISSOURI STATE MEDICAL ASSOCIATION

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JOHN S. SPRATT, JR., M.D., *Columbia*

The Cancer Research Center

A Progress Report

The Cancer Research Center, a nonprofit corporation affiliated with the Ellis Fischel State Cancer Hospital, enters its fifth year of operation with this report. It has grown from a drawing board concept in 1961 to an organization with 65 full-time research employees and a research budget during the past year of over $500,000. In January, 1968, the first building will be completed. This 14,000 sq ft structure will house the administrative offices, conference room, library, biomathematical section and some dry laboratories. Construction is financed entirely by the private contributions of Missouri citizens.

After four years of operation, the Cancer Research Center in Columbia now is preparing to move into its first building. The growth of the Center and the success of its programs and studies are described in this special report. Doctor Spratt is Director of the Center and Chief of Staff at Ellis Fischel State Cancer Hospital.

In the formative years, these activities of the Cancer Research Center were housed in leased space within the Cancer Hospital. With the completion of the building, most of the borrowed service space will be returned to the Cancer Hospital. The Cancer Research Center will continue to operate a nine-bed clinical research ward on the fifth floor of the Cancer Hospital. Use of this ward is restricted to the care of cancer patients with unusual problems in neoplastic disease admitted under special study. The studies are previously defined by protocols cleared through the Office of Research and the Scientific Review Committee. Review procedures place protection of the rights of the patient first, as outlined by the Surgeon General. Protocols are reviewed critically by the biomathematical section of the Cancer Research Center for the correctness of experimental design as well as by the Cancer Hospital clinicians. The humane and proper care of the sick comes above all other considerations.

Since the inception of the Cancer Research Center, 101 papers and two books have been published on a wide range of studies evaluating the natural history and contemporary care of human cancer. An efficiency study by the Cancer Research Center reduced the length of stay at the Cancer Hospital.

A similar study was carried out on the purpose and efficiency of follow-up of treated patients. One study established that patients with one

This 14,000 sq ft structure will be the Cancer Research Center's first building. Scheduled for completion in January, 1968, it is financed by the private contributions of Missouri citizens.

cancer are no more at risk to develop cancers of other organs than are other patients the same age who have had no prior cancer. A few exceptions were identified with respect to certain target organs. It was shown that follow-up has three purposes: the identity and correction of complications, the detection of treatable recurrences and the actuarial evaluation of therapy upon the natural history of the cancer. Only with the latter can the worthwhile nature of cancer therapy be evaluated with appropriate scientific accuracy because of the inherent chronicity of the disease.

The Ellis Fischel State Cancer Hospital and Cancer Research Center staffs have just launched jointly a total record review that will transfer the entire record system at the Ellis Fischel State Cancer Hospital to IBM forms. The data will be used for information recall, multiphasic identity of variables associated with development of cancer and a wide range of statistical studies on the natural history of human cancer. At the present time, a total of 83 projects are listed in the Office of Research.

The overall educational commitments of the staff materially increased under the impetus of the broadened research activities. An office of education has been established during the past year to coordinate the many affiliate teaching commitments with other institutions in Missouri.

The staffs of the Ellis Fischel State Cancer Hospital and Cancer Research Center join in expressing appreciation to the many physicians in Missouri who have assisted in this effort.

The American Cancer Society supports professional education through Clinical Fellowships. There are two types of Fellowships—Clinical and Advanced Clinical —for qualified medical personnel and institutions. For further information on these Fellowships, call your local ACS office.

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Long Term Survival in Carcinoma of the Liver

Case Report

Surgical excision still remains the sole and most effective modality of treatment of primary tumors of the liver of children and is capable of producing long-term survival. A recent review listed cases published in the literature in which survivals for longer than two years were obtained by surgery; the longest survival recorded was ten years. Survival for more than 17 years has been obtained in a case operated by one of us and probably constitutes one of the longest survivals recorded following surgical resection of a primary carcinoma of the liver.

Case Report

A six-month-old male infant was admitted in March, 1949, to the Ellis Fischel State Cancer Hospital because of an abdominal mass of two-and-one-half months duration. The mother stated that approximately three months before admission, the infant contracted a "cold." He became progressively pale, less active and more irritable. His bowel action increasingly diminished and she had to give him daily enemas. Approximately two-and-one-half weeks before admission, the mother accidently discovered a mass in the right side of the abdomen which extended to the level of the umbilicus. The infant was seen initially by the family physician who, in turn, referred the patient to the Ellis Fischel State Cancer Hospital. The mother stated that since the discovery of the mass, the child had become fussier. She had never observed any color changes in the urine or in the feces.

The patient was a third child, delivered normally without the use of forceps and weighing 7 lb. 10 oz. at birth.

The physical examination showed a well-developed, poorly-nourished infant who was irritable, but appeared to be in no acute distress. The positive findings were in the abdomen, which was moderately distended. On palpation, there was a mass occupying the entire right side and extending about three finger-breadths below the umbilicus and across the midline. It was firm and smooth, with a notch in the epigastrium. No murmurs were detected over the mass and it seemed not to move with respiration.

No abnormalities were seen in roentgenogram of the chest. Intravenous pyelogram revealed the right kidney to be moderately enlarged with poor demarcation of the calices and infundibulum. A large tumefaction was seen in a plain roentgenogram of the abdomen occupying the right side and extending across the midline with displacement of the hepatic flexure of the colon and stomach to the left and inferiorly (Fig. 1). Wilms' tumor of the right

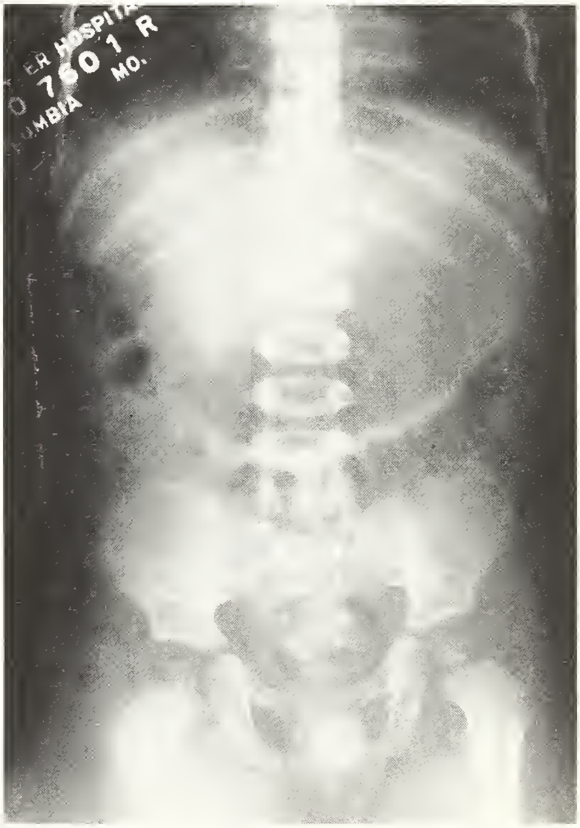

Fig. 1 Plain roentgenogram of the abdomen. Notice downward displacement of the transverse colon and stomach by the hepatic mass.

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* Deceased.

A case report representing one of the longest recorded postoperative survivals of carcinoma of the liver. Seventeen years after surgery, the patient is free of symptoms. This paper is the final contribution to medical literature made by the late Doctor John J. Modlin who was formerly Chief Surgeon, Ellis Fischel State Cancer Hospital (1947-1952); Professor of Surgery and Chairman of the Department, University of Missouri (1961-1964); Chairman of the Missouri State Cancer Commission (1958-1967); and Attending Surgeon, Boone County Hospital (1952-1960), (1964-1967). Doctor Perez-Mesa is Chief Pathologist and Doctor Johnson is Consultant in Pathology, EFSCH. Doctor Yeager is Assistant Professor of the Pediatrics Department, University of Missouri Medical Center.

kidney was the preoperative diagnosis. Laboratory data, including serum proteins, bilirubin, complete blood count and urinalysis were within normal limits.

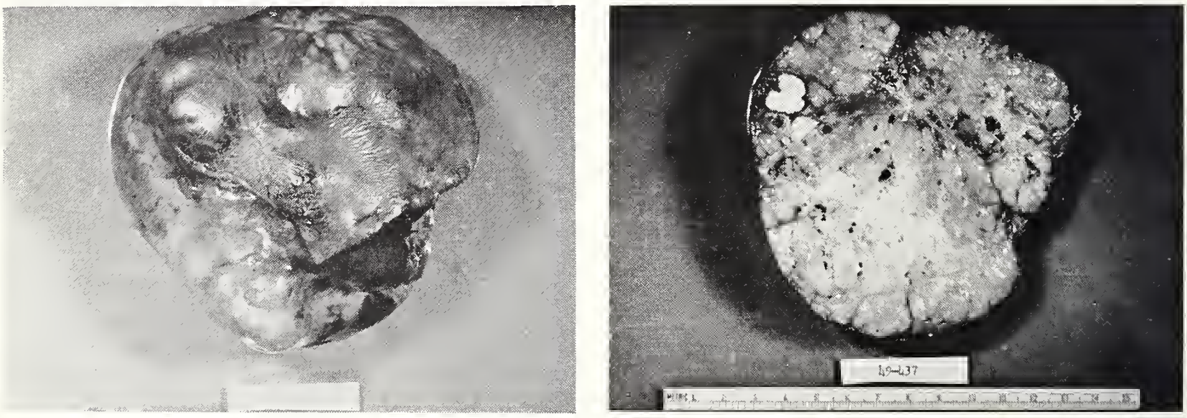
Upon opening the peritoneum, there was a small amount of clear fluid. A large tumor was found filling the right side of the abdomen. The tumor occupied the major portion of the right lobe and extended down to the region of the right hepatic artery and the right branch of the hepatic artery and portal vein. After considerable discussion as to whether or not this procedure was compatible with life, it was decided that complete resection offered the only possible chance of survival for the infant.

The incision was made through normal liver substance to the left of the tumor mass and between the right and left lobe of the liver. Anteriorly, the gallbladder was reflected to the left from its bed without disturbance of the cystic duct or cystic arteries. Two heavy silk sutures then were placed around the main right branch of the portal vein and around a large artery which had a definite thrill when palpated and was considered to be the right branch of the hepatic artery. With an assistant compressing the liver substance between the right and left lobes, the right lobe was completely excised by cutting through the liver substance between the two lobes. The main vessels were cut and ligated with medium silk. The oozing of the liver bed was controlled by a topical hemostatic agent. Mattress sutures of heavy silk were placed through the cut surface of the liver between the right and left lobes and tied as tightly as feasible to prevent further bleeding.

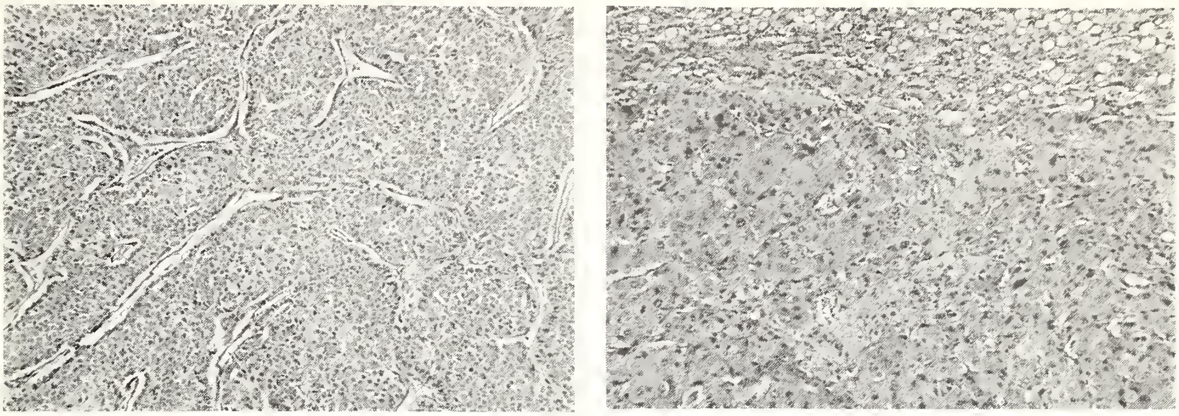
During the surgical procedure, severe shock occurred and was controlled by rapid administration of whole blood by manual syringe into a venous cutdown. The patient had an uneventful postoperative course.

The resected specimen consisted of an ovoid lobulated mass 12 cm x 11 cm x 8 cm, partially covered by a smooth liver capsule. A scanty rim of non-tumorous liver tissue was visible at the line of excision (Fig. 2A). On sectioning, the cut surface was moderately retracted, made up of tissue of rather homogeneous composition. It was predominantly grayish with areas of hemorrhage and necrosis of reddish and yellowish color. Numerous vessels containing thrombi were seen throughout. The limits of the tumor were well delineated but without encapsulation (Fig. 2B).

The microscopic pattern is that of a liver-cell type of adenocarcinoma (Fig. 3A). The invading margin revealed a demarcated border with compres-



Figs. 2A (left) and 2B (right) Gross features of the resected specimen. (2A) External appearance: There is a smooth lobulated surface covered by an intact capsule. The surface of resection faces to the left and inferiorly. (2B) Cross section of tumor: Well circumscribed margins, lobular pattern of rather homogeneous structures and with areas of hemorrhage and focal necrosis. Some thrombosed vessels can be seen; tumor emboli were observed microscopically.



Figs. 3A (left) and 3B (right) Trabecular pattern (3A) observed in the better preserved areas. Endothelial cells are lining the sinusoidal spaces. This is a common feature of hepato-cellular carcinoma. (3B) Less differentiated aspect of tumor at the margins. Observe the multinucleated and bizarre tumor cells. Notice the nontumorous liver tissue with fatty metamorphosis.

sion of the contiguous liver parenchyma (Fig. 3B). The margin of resection was narrow, but complete.

In the subsequent years, no clinical evidence of tumor has been detected and the patient's physical and mental development have progressed normally.

In 1966, during his last visit to the clinic, no abnormalities were observed in the physical examination or in the laboratory studies. On this occasion, a liver scan was performed (Fig. 4) and was interpreted as hypertrophy of the left lobe without evidence of intrinsic pathological features.

Discussion

At the time of exploration, there was concern that a total right lobectomy would represent too great a loss of liver parenchyma. In retrospect, it seems evident that the tumor already had removed the entire lobe so far as essential functions were concerned. A more crucial test of the extent of liver reserve capacity was carried out by the senior author, Dr. John J. Modlin, just two months prior to his own untimely death. He had occasion again to perform a total right lobectomy. In this case, it was to control bleeding from a severely lacerated liver from blunt trauma in an automobile accident. The patient was a 17-year-old college girl. After a stormy and prolonged post-operative course, she has recovered and is again attending college six months after the accident.

Summary

A case of primary carcinoma of the liver in a six-month-old infant is reported. The tumor was successfully resected by a right hepatic lobectomy. The patient is alive and in good health 17 years later.

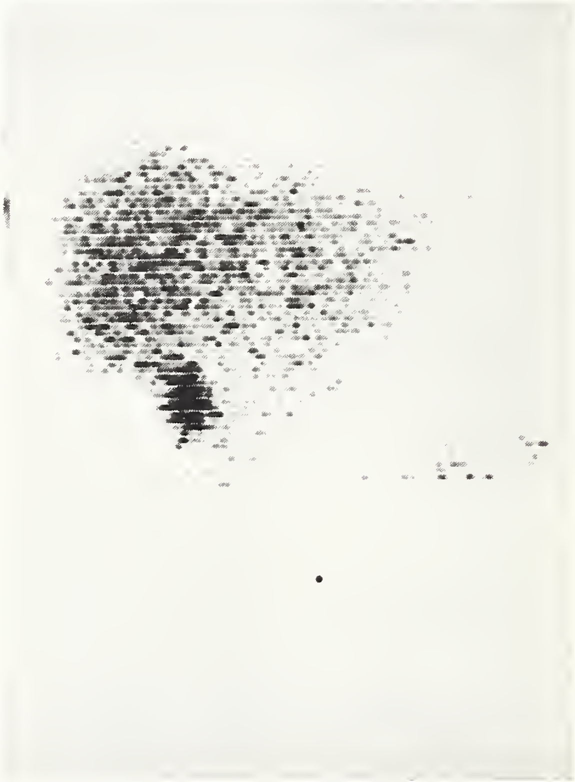


Fig. 4 Hepatic scan with R.B.I.^{131} demonstrates remaining hypertrophic left hepatic lobe. The gallbladder segment hangs medial in position. There is no intrahepatic pathology.

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Metastatic Carcinoma in Cervical Lymph Nodes From Occult Primary Sites

A Review

The purpose of this paper is to review the experience at the Ellis Fischel State Cancer Hospital (EFSCH) with carcinoma in cervical lymph nodes metastatic from primary cancers that could not be discovered at the first examination of the patient. The cervical lymphatic system has a wide potential for filtering out metastatic cancer cells from both infraclavicular and supraclavicular sources. Empirical observations and analysis of natural biological patterns of cancer cell spread and growth in these nodes by many investigators[1-5] have been helpful in understanding this problem. The fact that greater than 50% of the patients die without discovery of the primary cancer[1] demonstrates the need for better diagnostic techniques. Some authors[1, 3, 4] report that most primary cancer foci are not found due to their small size, inaccessibility, previous irradiation therapy, inadequate autopsy material or rapidly deteriorating clinical course from widespread metastases.

Ninety-seven cases with cervical metastatic disease of unknown primary origin observed at Ellis Fischel State Cancer Hospital are reviewed, analyzed and presented for aids in diagnosis and assessment of treatment plans utilized. The authors suggest a sound basis for management of this difficult problem. The authors are from EFSCH where Doctor Ridenhour is Resident in Surgery, Doctor Yuen is Cancer Control Senior Clinical Trainee and Doctor Spratt is Chief Surgeon. Doctor Ridenhour also is Resident in Surgery at the Missouri University School of Medicine. This project is supported in part by USPHS, Grant CA-08023.

The value of a radical neck dissection or irradiation for cure of the metastatic disease without knowledge or control of the primary neoplasm has been questioned.[6-8] Reports[1, 2, 9, 10] of patients surviving five years or more after treatment with either method have encouraged us to adopt an aggressive approach. Procrastination or watchful waiting in the management of potentially curable metastatic disease appears unreasonable and may allow hopeless spread beyond the confines of conventional methods available for control. Jesse[7] states that the treatment of the metastatic squamous cell node in the neck should be a radical procedure whether done surgically or by radiation therapy. He favors surgical removal in the extremely large node and the single, nonfixed, unilateral node located in the submental, submaxillary, prevascular, parotid or jugular sites. In all other sites, radiation therapy is preferred.

Twelve out of 97 patients from our series lived longer than five years free of disease after resective treatment. These case records form the basis for this communication.

Material and Methods

The case records of 3,099 patients with metastatic cervical lymph node carcinoma treated at EFSCH from 1940 through 1964 were screened for cases with an undetermined primary origin. Ninety-seven patients fulfilled the following criteria for selection: (1) all cases presented with a histologically-proven cancerous neck mass on admission, (2) no previous history of cancer prior to appearance of the neck mass, (3) primary site not determined by history, complete physical examination, radiological studies or histological material obtained, (4) no definitive treatment prior to referral.

All cases having a histological resemblance to thyroid carcinoma, breast carcinoma, lymphomas or melanocarcinomas were excluded. Cases with a suspicion of an infraclavicular primary origin on the basis of radiographic studies but without histological proof were excluded because, without operative findings or histological comparison studies, one cannot establish whether the suspected primary represented the primary cancer or simply another metastatic cancer. Thus, many cases with probable origin in the lung, pancreas or gastrointestinal were considered to be inoperable known primaries and were eliminated from the study.

During this same period at EFSCH, 11,545 skin cancers of the head and neck region were treated. Historical reference to previous skin cancer treatment in an area with potential lymphatic drainage into the applicable cervical lymph node system disqualified the case from the study.

The finding of a cervical mass in this age group stimulated the search for an etiology by careful history, complete physical examination, Papanicolaou smear of the cervix, sigmoidoscopy, indirect and direct laryngoscopy and nasopharyngeal examination with visualization and careful palpation. The clinical evaluation determined the type and extent of roentgenographic studies that were obtained. Barium swallow, intravenous pyelogram, upper gastrointestinal series and barium enema were obtained when the clinical symptoms suggested the difficulty in the gastrointestinal or genitourinary tract. Bronchoscopy, cystocopy, examination of the oronasopharynx under anesthesia and blind biopsy of the tongue were utilized when indicated. Recently, silicone nasopharygeal molds have been included in the diagnostic studies routinely. No cases after March, 1964, were included to allow for at least a three-year follow-up in survival computations. Complete follow-up data have been obtained on all patients to date of death or March 1, 1964.

Results

The average age of the patients in the study was 64.6 years, not differing greatly from the mean age (67 years) of all patients admitted to EFSCH. Seventy-five males and 22 females were found of whom 92 were Caucasian and five were Negro. Thirty-six percent (35/97) complained initially of a painless mass in the neck. The average duration of symptoms before admission to Ellis Fischel was 10.8 months. The location of clinically palpable nodes and survival is depicted in Table 1. The clinical stage of the metastatic neck nodules is shown in Table 2. Sixty-two percent of the lymph nodes were fixed and 34% had multiple metastatic nodes. This high proportion of multiple and fixed nodes demonstrates that far advanced disease is prevalent in this series. Table 3 shows the greatest chordal dimension of the metastatic nodule related to survival. Approximately 61% had nodes greater than 5 cm in greatest width. More than 90% of the patients had no symptoms suggestive of a primary site. No consistent laboratory abnormalities were

TABLE 1

Cervical Lymph Node Location and Survival

Anatomical Location of Cervical Nodes Determined Clinically	*Number of Cases*	*Cumulative Five Year Survival (%)*
Supraclavicular	29	3.8
Submandibular	18	11.1
Multiple sites, unilateral	19	15.6
Multiple sites, bilateral	17	0
Parotid	4	21.7
Diagastric	3	22.2
Posterior triangle	3	33.3
Mid-jugular	2	0
Pre-laryngeal	1	0
Facial	1	100.0

TABLE 2

Clinical Staging and Survival

Clinical Stage	*Number of Cases*	*Cumulative Five Year Survival (%)*
Unilateral, movable, single	16	25.1
Unilateral, fixed, single	33	16.8
Unilateral, fixed, multiple	14	14.3
Unilateral, movable, multiple	14	14.3
Bilateral, fixed	14	0
Bilateral, movable	3	0
Other	3	0

TABLE 3

Greatest Chordal Dimension of Clinically Measured Lymph Node and Survival

Cervical Lymph Node Size (cm)	*Number of Cases*	*Cumulative Five Year Survival (%)*
1-1.9	12	33.3
2-2.9	16	16.0
3-3.9	5	0
4-4.9	6	33.3
5-5.9	22	19.8
6-6.9	9	11.1
7-7.9	7	0
8-8.9	12	16.7
9 or greater	8	0

TABLE 4

Histopathology, Treatment Used, and Survival Rates in 97 Patients

Number Cases	*Histopathology*	*Treatment* Type	Number Cases	*Cumulative Survival Rate* Three Year (%)	Five Year (%)
50 (51.6%)	Undifferentiated carcinoma	None	13	0	0
		Surgery	7	28.5	14.3
		Radiotherapy			
		Curative	5	20.0	20.0
		Pallative	20	10.0	5.0
		Chemotherapy	5	0	0
42 (43.3%)	Epidermoid carcinoma	None	12	0	0
		Surgery	11	53.4	27.5
		Radiotherapy			
		Curative	7	28.5	28.5
		Pallative	11	18.2	18.2
		Chemotherapy	1	0	0
5 (5.1%)	Adenocarcinoma	None	5	0	0

found within this group of patients. The yield of all diagnostic maneuvers was analyzed in an attempt to find the most valuable screening aid. No single test or group of tests appeared to be most helpful in establishing the origin of the primary cancer. The number of studies done on any individual do not follow an absolute routine. If other clinical-pathological data establish the prognosis and the prognosis is such that no contemporary therapy will be effective, many patients are saved from the inhumanity of an exhaustive and expensive examination performed just for the sake of finding the primary.

Table 4 shows that the histological characteristics were predominantly undifferentiated (51.6%) and epidermoid (43.3%) carcinoma. Thirty patients out of 97 (30.9%) received no treatment due to widespread regional disease, large-sized locally advanced neoplasm, rapidly deteriorating clinical course or patient's refusal of proposed treatment plan. All of these patients died within one year after diagnosis. The mean survival time was 6.6 months. When the disease appeared to be localized to the neck with chances for cure, either radical surgery or irradiation for cure was done. The results of treatment according to the method utilized are presented in Table 4. Statistical comparison of the treatment groups would have little meaning due to the small numbers in each category, biased sampling and noncomparable groups. Overall results of the treatment plans used without regard for histological characteristics are shown in Fig. 1. Twelve patients lived five years or more free of disease after treatment.

The primary origin was later discovered in 16

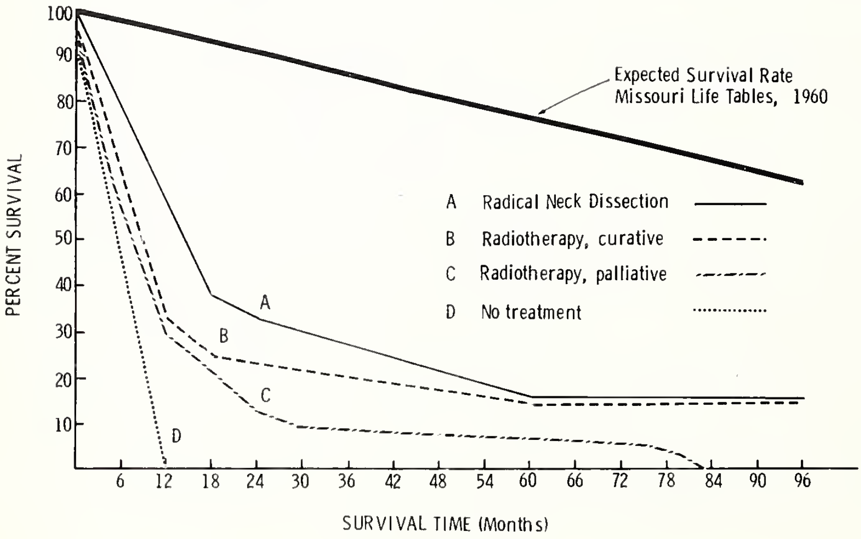

Fig. 1 Comparison of survival rates according to treatment method.

patients (16.5%). Table 5 shows that over 50% were located in the oronasopharynx. For four cases, the primary cancer was discovered at autopsy. Two cases were found unsuitable for any type of treatment after discovery of the primary. The remainder were treated with either surgery or irradiation. None of those patients treated for cure developed local recurrence in the previously treated metastatic site, establishing the palliative value of therapy for all treated.

TABLE 5

Location, Treatment and Survival of 16 Primary Cancers Discovered After Treatment of the Metastatic Cervical Node

Case Number	*Primary Site Determined*	*Treatment Type (After Discovery)*	*Survival Time After Discovery or Treatment of Primary (Months)*
1	Base of tongue	None	4
2	Base of tongue	Irradiation	10
3	Base of tongue	Irradiation	10
4	Base of tongue	Irradiation	54
5	Nasopharynx	None	0[*]
6	Nasopharynx	Irradiation	5
7	Nasopharynx	None	0[*]
8	Parotid	Surgery	66
9	Parotid	Surgery	12
10	Floor of mouth	Irradiation	10
11	Lip	Surgery	61
12	Skin	Surgery	84
13	Pancreas	None	0[*]
14	Ureter	Surgery	3
15	Testis	None	0[*]
16	Lung	None	2

[*] Indicates determination of primary site by autopsy.

Discussion

The presence of a neck mass in adults past the fifth decade of life must initially be considered neoplastic. Ordinary diagnostic measures will yield a primary cancer source in most cases. The incidence of cases wherein a primary focus cannot be found varies from 1.8% to 9%.[4, 9, 11] Our finding that one-third of the patients initially present with a painless cervical mass agrees with that of other investigators.[4, 9, 10] Despite exhaustive initial diagnostic efforts within this group, the primary remains occult in 60% to 70% of patients. After a quiescent period, the primary cancer is detected in the one-third of which less than 50% are suitable for treatment. Even autopsy material is often unrewarding in detecting the primary due to legal and technical considerations, previous irradiation therapy and sampling limitations. Coincidental diseases may mask the presence of the primary cancer.

Since the cervical lymphatics system has the potential for filtering out neoplastic cancer cells from both supraclavicular and infraclavicular sources, the search for the primary site becomes an exhaustive effort. Accumulated data from the English Literature[1, 2, 4, 9, 12] on the knowledge of common primary sites, pattern of nodal metastases and histopathological characteristics of patients in this category has assisted the clinician in making a presumptive diagnosis. Over 60% of the occult primary cancers have been found later in the head and neck regions. The single, most frequent area where occult primary cancers have been detected is in organ structures surrounding Waldeyers ring—nasopharynx, base of tongue and tonsil. This fact stresses the need for repeated palpation and visualization of the nasopharynx and supports the suggestion for blind biopsies of this area. The thyroid gland is the second most frequent area in those series that consider it an unknown primary source.[1, 2, 9, 10] Although the possibility that some of these metastatic nodules come from previously treated skin cancers, increased refinement in patient care and evaluation is gradually eliminating this consideration. The concept that these cases represent a branchial cleft cyst malignancy has not received much support.

Jesse[2, 7] and other investigators[1, 12] have stressed prediction of likely primary sites based on known patterns of lymphatic spread in the head and neck region and on the histopathological characteristics of the biopsied metastatic node. Some workers[3, 5] have contributed knowledge regarding mechanisms of cervical lymphatic spread of tumors in this region. Table 6 shows the determined origins of 173 occult primary sites in 525 cases of unknown cervical metastases reported in the English Literature.[1, 2, 4, 6, 7, 9, 10, 13] Fifty-nine percent were from supraclavicular primary foci of which nasopharynx contributed the greatest number of cases. Forty-one percent were from infraclavicular sources of which lung contributed the most cases. Since roentgenograms and clinical course, rather than histological proof, are most often used to determine the presence of a lung primary in these cases, the question of this being a primary or secondary focus is a valid one. Other sources of infraclavicular origin came primarily from gastrointestinal or genitourinary organs. Sporadic metastatic foci from these areas will continue to

TABLE 6

LOCATION OF REPORTED OCCULT PRIMARY SITES DETERMINED IN METASTATIC CERVICAL CARCINOMA **

AUTHOR	Total Cases	Primary Found	SUPRACLAVICULAR																INFRACLAVICULAR														
			Nasopharynx	Thyroid	Tonsil	Tongue	Larynx	Pyriform Sinus	Floor of Mouth	Pharynx	Maxillary Sinus	Parotid Gland	Lip	Skin	Ear	Mandible	Glomus Jugulare	Miscellaneous	Lung	Stomach Intestine	Pancreas	Breast	Esophagus	Lymphoma	Melanoma	Prostate	Urinary Bladder	Testis	Kidney	Ureter	Heart	Superior Mediastinum	Miscellaneous
Acquarelli et al	31	12	1		2			2								1			5			1											
Comess et al	103	42	7	11	5	2	1		1		1				1				3	2	1	1	1	1	2	1	1						
France and Lucus	43	12	3	3	1												1		2				1			1							
Greenberg	35	16				2	1	2	1										5		1			2				1			1		
Jesse and Neff	127	48	11	9			4											5	10	5													4
Lampe and Santin	56	12		2										1				1	4	2							1		1				
Marchetta et al	33	15	4							2	1		1						2		2	1										1	1
Present Series	97	16	3			4			1			2	1	1					1		1							1		1			
Total % of Total	525 100%	173 32.9%	29	25	8	8	6	4	3	2	2	2	2	2	1	1	1	6	32	9	5	3	2	3	2	2	2	2	1	1	1	1	5
% of Primary Found		100%	16.6	14.4	4.6	4.6	3.5	2.3	1.7	1.1	1.1	1.1	1.1	1.1	0.6	0.6	0.6	3.5	18.5	5.2	2.9	1.7	1.1	1.7	1.1	1.1	1.1	1.1	0.6	0.6	0.6	0.6	2.9

** English Literature

plague plans for accurate, methodical detection.

An acceptable diagnostic study and treatment plan must weigh factors of (1) chances for control of the tumor which, in these cases, must be based on reported empirical data; (2) morbidity and mortality of treatment plan utilized; (3) acceptable rehabilitation of the patient in his socioeconomic environment. The decision regarding treatment is sometimes solved at the time of hospital admission by the demonstration of locally advanced disease, distant metastasis or rapidly deteriorating clinical course. Thirty of our patients were disqualified for any treatment due to these criteria. For those cases with disease limited to the cervical lymphatic system, which appears curable, certain observations support the concept of aggressive treatment with surgery or irradiation. Fifty-one out of 525 reported cases[1, 2, 4, 7, 9, 12] have lived five years or more. Control of the primary is no longer an absolute contraindication for treatment of metastatic foci for cure. To deny these patients a chance for cure while waiting for a primary focus to appear seems untenable. It may take years for the primary to become evident. Further information necessary for a rational decision depends upon the degree of local control in the neck with present methods of treatment used. Local recurrence in the neck has been reported after treatment.[8, 9] In the present study, local recurrence in the treated metastatic site was not a significant problem.

Whether irradiation or surgery is utilized for control depends upon the location, site, extent of disease and histopathology. Patient survival rates based on observed reported cases cannot be analyzed statistically for meaningful data due to insufficient samples and incomparable data. Proponents of radical neck dissection favor surgery for a single, non-fixed, upper cervical node containing differentiated epidermoid carcinoma. Disadvantages in this method are disfigurement, mortality rate of 1% to 2%, possible tumor spillage with wound implantation and inability to include a possible primary focus in the oronasopharyngeal region within the resected tissue. Irradiation has been favored for supraclavicular nodes which have a high incidence of infraclavicular primary sites, undifferentiated anaplastic carcinoma with possible nasopharyngeal origin and anaplastic carcinomas in the head and neck areas. Palliative irradiation should be considered for bilateral and multiple metastatic foci. In our series, no significant difference in patient survival was noted between irradiation for cure or surgery (Fig. 1). Jesse[7] and Marchetta[12] feel that the ultimate method may be a combination of irradiation and surgery.

SUMMARY

The problem of metastatic cervical carcinoma from occult primary cancers is fortunately an uncommon one. The potential of cervical lymphatics to filter out cancer cells from most areas of the body discourages efforts toward developing specific diagnostic aids. Reliance in locating the primary source must be placed upon patterns of lymphatic spread, histological characteristics and observed empirical clinical data on likely primary sites. Ninety-seven cases with cervical metastatic disease of unknown primary origin observed at the EFSCH from 1940 to 1964 have been analyzed and presented for aids in diagnosis and assessment of treatment plans utilized. Sixteen primary sites were located, of which most were in the oronasopharyngeal region. Nearly all cases showed either undifferentiated or epidermoid carcinoma. Twelve patients in the series lived longer than five years.

The aim of management for any patient in this category transcends palliation alone and should be focused on plans for cure. Fifty-one out of 525 reported cases (9.7%) have lived longer than five years, which proves that the situation is not hopeless. Thoroughness in patient evaluation, aggressive approach to treatment of the metastatic site and vigilant follow-up thereafter, with further treatment of primary cancers as they are located, provides a sound basis for managing this difficult problem.

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The disease that afflicts man more commonly than any other is the subject of a new booklet, "Osteoarthritis, A Handbook for Patients," issued recently by The Arthritis Foundation.

In 20 pages of questions and answers, the new osteoarthritis pamphlet describes the disease and how it differs from rheumatoid arthritis and explains how it causes trouble. Symptoms, diagnosis, treatment and current research are covered, with emphasis on the importance of prompt and proper treatment to prevent disability. The purpose is to give victims of osteoarthritis and the general public a better understanding of the disease and what can be done about it.

Single copies may be obtained at no charge from any of the 79 chapters of the Foundation in major U. S. cities or by writing The Arthritis Foundation, Box 2525, New York, N. Y. 10001.

GALEN B. COOK, M.D., ***Columbia***

Parallels Between Aerospace Development and Cancer Detection

Under most circumstances, an inverse relation exists between the size of human cancers at the time of treatment and the effectiveness of that treatment. Confronted with our limited knowledge of the etiology of neoplasia and the lack of therapy that is totally reliable, the best opportunity available to improve the salvage of persons with cancer is through earlier diagnosis. This implies diagnosis before symptoms appear and is recognized as *cancer detection.*[1]

I think cancer detection has not been developed fully. As a guide to further this development, the medical profession should be interested in certain achievements gained during the past decade by engineers in the quality control of aerospace equipment for there exists here a parallel that is useful.

A rocket or jet engine is costly; reliability must be near absolute. As a consequence, engineers demand quality control more dependable than that possible by random sampling and to reach this end, use nondestructive testing (NDT): without disassembling or destroying the test specimen, the material or equipment under question is examined to determine the accuracy of manufacture.

For similar reasons, physicians inspect (or should inspect) asymptomatic persons to detect occult disease, particularly cancer. Human life has limitless value and random sampling (multiple biopsies of asymptomatic tissues) is impractical except by cytologic techniques. There we see the parallel. Indeed, many testing methods used by engineers and physicians are identical, e.g., radiography, ultrasonography, noise detection, etc.

Commander R. W. Smiley has published an evaluation of the NDT program for the Polaris missile.[2] As officer-in-charge of the Polaris Missile Facility Pacific, Bremerton, Washington, he has evaluated the quality control inspection for this apparatus and has written guidelines for developing such programs. His criteria are applicable for designing cancer detection tests. In presenting this paraphrase of Smiley's *Guidelines,* I will rely heavily on diagnostic methods for breast cancer detection as an illustration but, also, will refer to some investigations of original cancer detection tests being studied at the Cancer Research Center.

Elements of a Successful NDT Program

Know All Attributes That Need Examination

Today, we use primarily touch, direct vision and indirect vision (through radiography) for detecting cancer. The salvage rate shows too frequently that we are arriving late of the optimum time for treatment. Perhaps our methods are not sufficiently sensitive or are being directed toward less than ideal parameters.

Subtle variation in breast size, configuration, temperature, density, plasticity, water content, pH, hardness, mobility, vascular anatomy, energy transmission gradients and peripheral relationships may be important for increased accuracy in any single examination. Sophisticated instrumentation can be designed to measure quickly and efficiently any of these variables and many others when the most meaningful is learned.

Presently, Watson and Donegan are studying the interrelationship of 18 variables of breast cancer at the Cancer Research Center to determine how these fit together in patterns to influence salvage. This work may give us new insight to attributes of the disease that should be studied.

Tumor growth rate correlated with changes in these variables is essential. This information will lead to correct programming of repeated examinations to gain maximum return at minimum cost.

Examine Many Techniques

In developing better detection tests for cancer, the surgeon, radiologist or pathologist working alone is handicapped. The success with multidiscipline cooperation in aerospace research implies that much more could be accomplished in cancer detection by including statisticians, biophysicists, biochemists, biorheologists and electronic and materials engineers. The new department of Applied Medical Engineering at the Cancer Research Center recognizes this and intends to utilize this approach simply because a single discipline is unlikely to command sufficient knowledge to encompass the whole problem.

Breast cancer detection is now confined to (1) the physicians' examination as part of a regular physical checkup, (2) monthly self-palpation, (3) thermography and (4) breast radiography. Surely, other methods could be devised which may be more effective. (As an example toward this end, our laboratory is studying the possibility of increasing the selectivity of breast palpation by using a highly sensitive matrix of pressure transducers with electronic read-out to place the data on computer tape for automatic analysis and storage. Here we are concerned with the attribute of hardness, a characteristic of cancer first recognized by Leonides 2,000 years ago but not yet explored scientifically.)

Learn the Meaning of False Results

A false positive cancer test entails wasted time and dollars but, worse, it portends needless physical and emotional trauma that may have dangerous permanent residual effect. A false negative result can be of even greater detriment. (How often is this the case with a shadow seen on a chest roentgenogram?)

Maintain Accuracy of the Technique by Checks and Balances

Difficulty in assuring accuracy among less experienced examiners has been one of the most troublesome problems with widespread application of mammography. Test results that require interpretation and experience are always more difficult to enclose in the rigid confines of an absolute positive or negative diagnosis. Fortunately, as experience increases, interpretive skill increases, and as technical sophistication develops, uncertainty often resolves. (We have found this to be true in the topical impression methods we devised for the endometrium and esophagus[3] using thermoplastic tubes. The simple technical problem of a uniform pretest surface was essential. When this was solved, interpretation of the mold surface became easier.)

Acknowledging that cancer detection before symptoms has not been developed fully, the author recommends utilizing the quality control and nondestructive techniques of aerospace development as a more accurate method. He has paraphrased Commander R. W. Smiley's *Guidelines* for developing successful NDT programs such as that for the Polaris missile and urges that they be considered for application in finding useful cancer detection tests. Doctor Cook is Chairman of the Department of Applied Medical Engineering at the Cancer Research Center.

Provide Adequate Financial Support

Neoplastic disease research has gained outstanding support from government and private agencies during the past 15 years but, unfortunately, ". . . although diagnosis was a goal clearly written into the National Cancer Act, in the minds of many researchers, this goal was one to be approached either indirectly, with extreme caution or, preferably, not at all, for the leads were slim and the payoff in reputations in cancer research was to be in basic research . . . expenditures for diagnostic research have remained stationary during the period of rapid growth of other cancer research support.

"Considerable zeal and effort needs to be expended in knowledgeable hands (in addition to funds) if the approaches have merit and require evaluation."[4]

Assure Transmission of Positive NDT Data

The detection of presymptomatic cancer does not guarantee salvage of the person harboring it; even detection of *curable* tumors does not assure salvage. Application of the best treatment by skilled personnel is mandatory. When astute detection is not followed by sound treatment, the value of the detection is lost. One midwest clinic reported results of 26 presymptomatic colon cancers. Treatment was conducted at institutions separate from the detection center and resulted in four immediate deaths. This is an operative mortality of 16% and detracts from the benefit of the effectiveness of the astute detection that the clinic achieved. An effective cancer NDT program requires complete follow-through of each discovered tumor so that results of care may reach optimum.

In the Polaris program, this difficulty was resolved by giving the NDT personnel separate and distinct responsibilities from those individuals concerned with manufacture. In contrast, cancer detection and cancer therapy personnel are usually the same. Competence in the detection of this disease does not necessarily imply skill in treatment; the reverse also is true. Dual competence should be sought, but if it cannot be attained, then separation of the two groups offers some possibility for a check and balance if each group can be stimulated competitively to maximum performance.

Determine Effectiveness of the NDT

A test must be evaluated not only by its capacity to expose hidden cancer, but by its effectiveness to improve salvage rate. Through this means, the test and its communication channel to effective treatment can be appraised best. If the salvage cannot be increased, then meaningful palliation must be achieved or the new test has no apparent value. This is true even if the test is uniquely sensitive, accurate and reliable. It is untrue if effective therapy does not exist. The interested reader is referred to Steiner[5] for complete discussion of detection vs. treatment requirements of various human cancers.

Eliminate Redundant Tests; Automate Inspection Where Possible

Bias of the individual investigator often reduces efficiency in selecting the best NDT. The physician must remember that the burden of collecting useless information is carried by the patient. Any sound scientific cancer detection program must have sufficient self-discipline to divest itself and the patient of all but the useful burden.

For any new method to be of general benefit, it must be simple and efficient to be transferred from the research clinic to the medical community. This is most important in cancer screening tests because these examinations must be applied to large numbers of normal individuals. (The electronic stethoscopes developed by the Thiokol Corporation, General Motors Research Laboratories and others rely on this concept and depend on computers to make initial decisions about the importance of cardiac murmurs in heart disease.) Automation means that the cost of conducting these tests will be small eventually. As more organs can be studied effectively by diverse means, this criterion will be increasingly significant.

The most attractive new tests may be those that can be conducted by a technical assistant rather than by the physician directly. The serologic test for syphilis is a clear example of the usefulness of a simple detection method that is accurate and reliable, but does not require physician participation in data collection. (In working with the silicone enema for diagnosis of early colon cancer,[6] we have kept this concept foremost in our development program and now are using nurses to administer the enema and collect the specimen.)

SUMMARY

Efficient manufacturer of the Polaris missile has required examining the equipment by nondestructive techniques. Cancer detection of asymptomatic persons requires similar concepts. Guidelines to the essentials of the successful Polaris program are given so that they may be considered for application in finding useful cancer detection tests.

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The third revision of *Group Practice: Guidelines to Forming or Joining a Medical Group,* originally published in 1962, is now off the presses. Medical societies and individual physicians may obtain complimentary copies by writing the Department of Health Care Services, American Medical Association. Jointly produced by the AMA, the American Association of Medical Clinics and the Medical Group Management Association, the 40-page booklet covers all aspects of group practice.

GRACIELA M. SERNA, M.D., *Columbia*

Osteoradionecrosis

Osteoradionecrosis, reported since the early days of radiotherapy, is due primarily to impairment of the blood supply subsequent to irradiation endarteritis. Additionally, alterations of the intrinsic bone cellular structures play a role.

Radiosensitivity of adult bone equals the radiosensitivity of the skin for the respective exposure conditions, and, as in other tissues, dose fractionation decreases the effect on bone of a given single dose.[1]

In the stage of osteoradionecrosis, there is practically no recovery and the absorption of the dead bone may require years or may not take place at all. Healing depends on the extent of the necrosis and possible presence of viable cells to form sufficient new bone. Osteoradionecrosis is sometimes one of the unavoidable complications that must be accepted in the successful treatment of malignant diseases since adult bone is heavily irradiated in nearly all radiotherapy techniques. It usually occurs in patients well past middle age when a certain amount of osteoporosis and early arteriosclerosis of the vascular structures of the bone are to be expected.

Regato states that the invasion of or the proximity of a tumor to a cartilaginous or bony structure is not a contraindication for radiotherapy but simply a circumstance requiring special adaptation of technique.[2]

Paterson says that in cases treated for the first time, an incidence of bone necrosis of more than 2% to 4% indicates a failure to the technique and requires immediate investigation.[3] However, a higher incidence may be expected, regardless of the technique, in the following situations: re-irradiation, irradiation over an operative site or a ligation of a major vessel supplying a previously irradiated area, as in the head and neck.

Material

It was considered of interest to learn about the incidence of bone necrosis at the Radiotherapy Departments at the Puerto Rico Nuclear Center and Oncologic Hospital in San Juan, Puerto Rico. Analyzing some of the clinical situations in which that complication is more probable may prove important. At present, we have reviewed mandibular necrosis in the treatment of carcinoma of the floor of the mouth, clavicular and costal necrosis in carcinoma of the breast and necrosis of the pelvis in carcinoma of the uterine cervix and carcinoma of the penis. Other anatomical regions may be the subject of a future revision.

Mandibular Necrosis

The clinical manifestations of mandibular necrosis were discussed by Regaud in 1922. He considered that bone was more susceptible to the effect of radiation than other tissues, such as skin, which often appeared normal while the maxillary and mandibular bones beneath were affected. The largest number of necroses in that bone occurs in patients treated for squamous carcinoma of the floor of the mouth.

Radium alone gives localized necrosis versus larger and diffuse ones with external irradiation. Trauma of any kind, but mainly dental extractions, increases the incidence. A pre-irradiation systemic removal of all teeth is not advocated. It is better not to extract those in good or fair condition. Partly loose or carious teeth should be removed with simultaneous radical alveolectomy

Osteoradionecrosis occurs as one of the unavoidable complications that must be accepted in the successful treatment of malignant diseases. The author reports on a study of this complication in the treatment of mandible in carcinoma of the floor of the mouth, ribs and clavicles in carcinoma of the breast and pelvis in carcinoma of the uterine cervix and penis. Doctor Serna is Assistant Scientist in Radiotherapy at the Cancer Research Center. She was with the Radiotherapy and Cancer Division, Puerto Rico Nuclear Center and the Radiotherapy Department, Oncologic Hospital in San Juan, Puerto Rico at the time this paper was written.

TABLE 1

Mandibular Necrosis in Different Radiotherapy Centers

	Year	*No. Cases*	*%*	*Primary*
Watson & Scarabough, N. Y. Memorial Hosp.	1930-37	235/1819	13	Head and neck
Jacobsson, Radiumhemmet Stockholm	1931-42	15/267	5.6	Tongue
Meyer, Massachusetts		27/941	3	Oral cavity, including lips
P.R.N.C. & Oncologic Hospital, San Juan, P. R.	1940-60	10/131	7.6	Floor of mouth

at least two weeks prior to the onset of irradiation.[4, 5]

From 1940 to 1960, 145 patients with carcinoma of the floor of the mouth were registered, and ten out of 131 who were subjected to radiotherapy (7.6%) developed osteoradionecrosis of the mandible (Table 1). None presented evidence of invasion of the bone by the primary lesion. In six cases, simple dental extractions had been performed immediately before the beginning of irradiation with a maximum of five days. The earliest necrosis appeared within one month and the latest, eight years later. The youngest patient was 42 years of age and the oldest was 85. In all cases except one, there was presence of local pain. In eight cases, there was bone exposure, considered the most advanced degree of osteonecrosis in this area. Six cases had combined treatment, three had external cobalt therapy and interstitial and three had orthoroentgentherapy plus interstitial. Two cases had peroral roentgentherapy. One case had peroral plus interstitial and one case had only external roentgentherapy. The lowest dose was 2480 r in 20 days and the highest, 7000 r in 59 days plus immediate 6000 gamma roentgens in 128 hours (5.3 days).

Of the ten cases, two were lost to follow-up shortly after necrosis developed. No treatment was instituted in either of the two. Four cases underwent hemimandibulectomy: one of these was cured a year later, two had progression of the necrosis four and six months after the surgical procedure and have not been seen recently and one died two years later with recurrence of the primary carcinoma. Local resection was carried out in one case. When last seen, ten months later, it was asymptomatic, taking cytomel for soft tissue necrosis. Of two sequestrectomies, one is alive after two years with progression of the bone necrosis and the other is alive but without necrosis after eight months and has just finished a second course of cobalt therapy for a second primary of the oral cavity, upper gum.

Clavicular and Costal Necrosis

Necrosis of the clavicle and ribs is usually asymptomatic and is usually discovered incidentally at routine roentgenological examinations in the course of routine follow-ups.

Lester and Pohle[6] from Wisconsin University in 1941 reported 15 cases of fracture of the ribs and Slaughter[7] from Memorial Hospital in New York in 1942 reported eight cases, five fractures of the clavicle and three fractures of the ribs following irradiation after mastectomy for carcinoma of the breast. In 1943, Wammock and Arbuckle[8] from Philadelphia reported ten cases of fractures of the ribs following interstitial curietherapy in advanced carcinomas of the breast. From the University of Jena in Germany, Eberhard,[9] in reviewing their material from 1950 to 1955, reported four out of 369 cases with fracture of the ribs and clavicle.

Ackerman,[10] in 1955, reviewing the material of carcinoma of the breast treated by the McWhirter technique in Edinburgh, Scotland, found a high morbidity rate, 47 out of 786 cases "with irradiation damage, along with multiple fractures of the ribs, clavicle and/or humerus." Of 200 cases of carcinoma of the breast registered in our Department from 1955 to 1960, 147 cases were submitted to irradiation. Three out of the 147 developed necrosis of the ribs and clavicle, simultaneously in two of them (Table 2). The three cases also showed marked skin changes, and in one there was radiological evidence of apical pneumonitis.

Opposite to what is usually reported in the literature, two of our three cases had pain due to the osteonecrosis. The onset of the fractures occurred two-and-one-half and six years after completion of irradiation. The average skin dose was 5600 r in seven weeks generated by a 250 kv unit. One case developed fracture of the second and third ribs along the anterior axillary line after two years and underwent a second course of irradiation three years later for chest wall re-

TABLE 2

CLAVICULAR AND COSTAL NECROSIS AT DIFFERENT RADIOTHERAPY CENTERS

	Year	*No. Cases*	*%*	*Region*
Lester & Pohle, Wisconsin Univ.	**1941**	**15**		**Ribs**
Slaughter, Memorial Hosp., N. Y.	**1942**	**8**		**Clavicle (5), ribs (3)**
Ackerman, Edinburgh, Scotland	**1955**	**47/786**	**6**	**Ribs, clavicle, and humerus**
Eberhard, Univ. of Jena, Germany	**1950**	**4/369**	**1**	**Ribs and clavicles**
P.R.N.C. & Oncologic Hosp., San Juan, P. R.	**1955 1960**	***3/147**	**2**	**Ribs and clavicles**

* 1/3 re-irradiation + rupture I.M. artery.

currence, 3000 r in 32 days at the center of tangential fields. In four months, there appeared wide exposure of the costal cartilages. The patient died within a few days of acute hemorrhage from rupture of the internal mammary artery.

PELVIC FRACTURES

Irradiation injury to the pelvis was first mentioned by Baensch of Leipzig in the report of two cases after therapy of carcinoma of the uterine cervix and carcinoma of the ovary, respectively, in 1927. The most commonly reported post-irradiation change in the pelvis is fracture of the femoral neck and, although an identical dosage is usually delivered to both hemipelvis, fracture of the left side shows a definite predominance. The fundamental radiobiological fact pointed out by Lacassagne and Gricouroff may help, partially, to explain that predominance: *"In both clinical and experimental fields, the lesions produced in similar elements are unequal, even when exposed under identical conditions."*

The spontaneous fracture of the femoral neck among the general population is 1-2/4-5000 persons in the seventh decade, due to osteoporosis and occurs more commonly in women than in men by a ratio of three to one (Table 3).

Lateral fields were largely considered responsible for the femoral neck fractures, but these occur even without the use of such fields. The determinant factor is not the type of field by itself, but the high or excessive dose delivered to the structure of interest through an unnecessarily large field, even if given anteroposteriorly. Female true pelvis is 13 to 14 cms in transverse diameter.[11]

TABLE 3

FEMORAL NECK FRACTURE INCIDENCE

	No. Cases	*%*
Cantril & Buschke	**0/700**	
Fletcher	**1/600**	
Kottmeier	**1/4500**	
Schmitz	**1/1000**	
P.R.N.C. & Oncologic Hosp.	***1/2063**	**0.05**

* 1/89 re-irradiation = 1.12%.

A major contribution to femoral neck fractures is re-irradiation. Most authors agree that the radium application probably plays a very minor role, if any, in such fractures.

From 1941 to 1960, of 2063 irradiated cases of carcinoma of the uterine cervix, 89 were re-irradiated; one within this group, a 64-year-old Stage III, developed subcapital fracture of the left femoral neck 14 months after completion of the first course, 3500 r/76 days MPD 250 kv, through an 18 cms × 12 cms anteroposterior-posteroanterior field and 12 cms × 8 cms sciatic-perineal field, and only a few days before the completion of a second course with cobalt for residual disease in the left hemipelvis, 4500 r in 36 days, mid pelvic dose.

Three-and-one-half years later the fracture was healed and atrophic necrotic changes in both femoral heads were present. When last examined or seen in August, 1965, eight years after her initial visit and six years and ten months postfemoral fracture, she had pain in left hemipelvis, left pelvic mass, homolateral lower extremity edema, contracture of the left leg and fracture of the medial right ischiopubic ramus.

In 1941, Hight reported the only case of fracture of the femoral neck in a male, four months after delivery of 1600 roentgens to each of two inguinal fields for carcinoma of the penis.

The anatomical pelvic differences between males and females, the same factors which produce traumatic fractures three times more often in females than in males and, possibly, the restricted use of radiotherapy in male pelvis, limited mostly to advanced cases of carcinoma of the prostate and bladder with a shorter life span, may explain the striking sex difference.

In the revision of the clinical material of carcinoma of the penis in this hospital from 1939 to 1960,[12] 88 of 258 cases were irradiated and in none of them was there a record of bone changes (Table 4).

TABLE 4

CARCINOMA OF THE PENIS, 88 IRRADIATED CASES

2000-3000 r/2 or more weeks	*5 y.s.*	*%*
67 Prophylactic inguinal irradiation	36	53.7
10 Advanced inguinal metastases	0	0
11 Postoperative recurrences	2	18

Necrosis of the pubis ramus, the sacrum or the ilium are rare happenings, although the pubic bones particularly receive much larger amounts of radiation than does the femoral neck. In 1945, two cases with multiple pelvic changes were reported from the University of Minnesota, including fractures of the pubis.

We have records of two cases of osteitis pubis, and one single case of fracture of the ischiopubic ramus, right medial portion, eight years postirradiation, in our only already-mentioned case of fracture of the femoral neck.

SUMMARY

Osteoradionecrosis, reported since the early days of radiotherapy, is due primarily to impairment of blood supply subsequent to irradiation endarteritis. Radiosensitivity of adult bone equals about the radiosensitivity of the skin for the respective exposure conditions and, as in other tissues, dose fractionation decreases also the effect of a given single dose on bone. Osteoradionecrosis occurs as one of the unavoidable complications that must be accepted in the successful treatment of malignant diseases. The knowledge of its incidence is considered of importance to correct, if possible, the causes and keep them at lowest levels. Certain clinical situations, in which the complication of osteoradionecrosis is more probable and may prove important, provide the material for this report. Heavy irradiation, as described in this analyzed material, is considered the basic etiological factor, and in mandibular necrosis, simple dental extractions shortly before irradiation is considered a definite and determinant factor.

The per cent of incidence is comparable with that reported in the literature from other radiotherapy centers.

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The prescription drug industry has announced that it financed more than 96% of its research and development activities with its own capital last year. Government funds accounted for only 3.4% of the industry's research.

By way of comparison with other industries, recent statistics show that government supports 90% of the research and development in aircraft and missiles, 62% for electrical equipment and 27% for motor vehicles. All private industry combined pays only 41% of its research and development with government supporting the remaining 59%.

The 96% paid by pharmaceutical firms is expected to be even higher this year, according to an annual survey released by the Pharmaceutical Manufacturers Association.

JANE FRAENKEL-CONRAT, Ph.D., THERESA STOY *and*
SHIH-FU TSAI, *Columbia*

Investigation of Ascorbic Acid Levels in Blood of Cancer Patients Compared to Normal Subjects

The authors present data giving values of ascorbic acid levels in plasma and leukocytes of normal subjects and of patients admitted to Ellis Fischel State Cancer Hospital. They observed no significant differences in the values obtained. Doctor Fraenkel-Conrat is director of Laboratories, Cancer Research Center, and Assistant Professor of Oncology in Biochemistry, University of Missouri Medical Center; Mrs. Stoy is a Research Assistant at the Cancer Research Center; and Mr. Tsai is a graduate student in Biochemistry, University of Missouri Medical Center. Their investigation was supported by PHS Research Grant CA 08023-03, National Cancer Institute, Public Health Service.

It is known that adequate ascorbic acid intake is essential for the integrity of skin and mucous membranes. Crandon and his associates[1] have reported that plasma levels of ascorbic acid below 0.2 mg % are indicative of severe ascorbic acid deficiency. Ascorbic acid also is required for the formation and maintenance of collagen and prevention of hemorrhage in wound healing.[2]

Inasmuch as many of the patients admitted to Ellis Fischel State Cancer Hospital are indigent, we thought it of interest to investigate their blood ascorbic acid levels.

Methods and Results

The method of Roe[3] was used for the determination of plasma ascorbic acid. Since it has been suggested[4, 5] that the concentration of ascorbic acid in leukocytes gives a better index of the state of vitamin C nutrition, we also investigated this problem. We used the method of Lalizari[6] to obtain blood leukocytes. We then washed the leukocytes once in physiological saline, resuspended them in saline and used an aliquot of this suspension to determine the ascorbic acid concentration. Since we counted the number of cells per c mm, we knew the number of cells in the aliquot used, which was treated in the same manner as the plasma for vitamin C assay.

We should like to mention that different batches of activated Norite did not give identical results, so that we used only those batches which gave similar standard curves.

TABLE 1

Concentration of Ascorbic Acid in Plasma

Subject	*No.*	*Av., mg %*	*Range, mg %*
Cancer	30	0.77	0.16-2.00
Undiagnosed	13	0.79	0.23-2.39
Other diseases	13	0.82	0.35-1.66
Normal	21	0.72	0.20-1.87

Table 1 gives the values obtained on the plasma of 58 patients selected at random on admission to the hospital and 21 normal subjects. There is no difference in the average concentration of ascorbic acid in these two sets of subjects.

Table 2 summarizes the experiment in which ascorbic acid was determined in both plasma and leukocytes. The average concentration of vitamin C in the leukocytes of patients and normal controls is the same.

Table 3 gives the mean values and standard deviations of ascorbic acid levels of plasma and leukocytes from cancer and normal subjects.

Conclusion

These data are presented to acquaint the physicians with the vitamin C nutritional status of

TABLE 2

Comparison of Ascorbic Acid Values in Plasma and Leukocytes

Subject	*Cancer*	*Normal*
Number	39	10
Plasma		
Av. mg %	0.91	0.67
Range	0.16-2.00	0.24-1.87
WBC		
Av. mg %	2.76	2.74
Range	0.58-7.65	0.90-3.11
Ratio, WBC/Plasma		
Av.	3.03	4.09
Range	0.44-8.13	1.02-7.54

Missouri indigent cancer patients. We feel the additional work involved in determining the ascorbic acid concentration in leukocytes does not offer much more information than the simpler analyses on plasma.

TABLE 3

Mean Values of Plasma and Leukocytes Ascorbic Acid

Subject	*No.*	*Plasma* MG %	*Leukocytes* MG/10^{10}	*Ratio* WBC/PLASMA
Disease	56	0.77 σ=0.55		
Normal	21	0.72 σ=0.44		
Cancer	39	0.91 σ=0.59	2.76 σ=1.49	3.03 σ=2.06
Normal	10	0.67 σ=0.29	2.74 σ=1.60	4.09 σ=1.80

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"Drugs vs. Cancer," a 17-page report on the current status of cancer chemotherapy research, has been issued by the Public Health Service. It is the third in a Research Report series prepared by the Research Information Branch, National Cancer Institute, National Institutes of Health.

The new publication describes the major classes of cancer drugs and discusses their mechanisms of action as presently understood. It includes a chart listing drugs often employed against various forms of cancer not amenable to surgery or radiotherapy. Problems associated with drug therapy are discussed along with methods being developed to help overcome them.

The report describes the intensive effort being made cooperatively by scientists in Government, industry, universities, medical centers and private research organizations to develop new and better drugs. It also discusses research on cell growth cycles presently under way to permit the known drugs to be used more effectively.

Single copies of "Drugs vs. Cancer" (PHS Publication No. 1652) are available without charge from the Public Health Service, Washington, D. C. 20201. The pamphlet may be bought in quantity from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402 at 15 cents a copy.

In rheumatoid arthritis, Butazolidin alka needs only a week's trial. If it doesn't work in a week, forget it.

A short trial period may spare patients weeks of discomfort. That's one reason why Butazolidin alka seems a good choice when aspirin fails.

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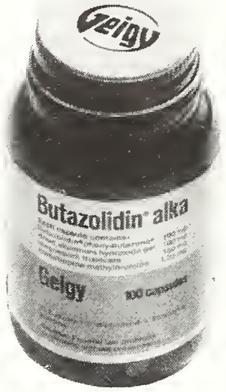
And adverse reactions may occur. The most common are nausea, edema and rash. Rarely, agranulocytosis has been reported. All adverse reactions are listed below, too.

You'll know quickly if it works.
And most of the time, it will.



foliative dermatitis, Stevens-Johnson syndrome, or a generalized allergic reaction similar to serum sickness may occur and require permanent withdrawal of medication. Stomatitis, salivary gland enlargement, vomiting, vertigo and languor may occur. Leukemia and leukemoid reactions have been reported. While not definitely attributable to the drug, a causal relationship cannot be excluded. Thrombocytopenic purpura and aplastic anemia may occur. Confusional states, agitation, headache, blurred vision, optic neuritis and transient hearing loss have been reported, as have hyperglycemia, hepatitis, jaundice, and several cases of anuria and hematuria. With long-term use, reversible thyroid hyperplasia may occur infrequently. Moderate lowering of the red cell count due to hemodilution may occur.

Dosage in Rheumatoid Arthritis: Initial: 3 to 6 capsules or tablets daily in 3 or 4 equal doses. Trial period: 1 week. Maintenance dosage should not exceed 4 capsules or tablets daily; response is often achieved with 1 or 2 capsules or tablets daily.
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Component Society Meeting Dates

Audrain County Medical Society—third Tuesday of each month.
Barton-Dade County Medical Society—third Wednesday of each month.
Benton County Medical Society—meets only on call.
Boone County Medical Society—first Tuesday of each month.
Buchanan County Medical Society—first Wednesday of each month.
Butler-Ripley-Wayne County Medical Society—first Wednesday of each month.
Callaway County Medical Society—third Thursday of each month.
Cape Girardeau County Medical Society—first Monday of each month.
Chariton-Macon-Monroe-Randolph County Medical Society—second Thursday of each month, September through May.
Clay County Medical Society—last Tuesday of each month.
Clinton County Medical Society—meets only on call.
Cole County Medical Society—fourth Tuesday of each month.
Cooper County Medical Society—first Monday after the 15th of each month.
Dallas-Hickory-Polk County Medical Society—first Wednesday of each month.
Dunklin County Medical Society—first Tuesday of each month.
Franklin-Gasconade-Warren County Medical Society—first Tuesday of each month at the St. Francis Hospital, Washington, at 7:00 p.m.
Grand River Medical Society (Caldwell-Carroll-Livingston, Grundy-Daviess, Harrison, Linn, Mercer, DeKalb)—second Thursday of each month.
Greene County Medical Society—fourth Friday of each month.
Henry County Medical Society—meets only on call.
Howard County Medical Society—meets only on call.
Jackson County Medical Society—March, May, October and December.
Jasper County Medical Society—second Tuesday of each month, September through May.
Jefferson County Medical Society—meets fourth Tuesday of each month.
Johnson County Medical Society—meets only on call.
Lafayette-Ray County Medical Society—second Tuesday of each month at 7:30 p.m., at the Victory Cafe, Lexington.
Lewis-Clark-Scotland County Medical Society—meets only on call.
Lincoln-St. Charles County Medical Society—fourth Tuesday of each month.
Marion-Ralls-Shelby County Medical Society—third Tuesday of each month, 7:30 p.m.
Mid-Missouri County Medical Society (Phelps-Crawford-Dent-Pulaski-Maries-Laclede)—fourth Thursday of each month.
Miller County Medical Society—meets only on call.
Mineral Area County Medical Society (St. Francois-Iron-Madison-Washington-Reynolds-Ste. Genevieve)—fourth Thursday of each month.
Moniteau County Medical Society—second Thursday of each month.
North Central Counties Medical Society (Adair-Schuyler-Knox-Sullivan-Putnam)—meets only on call.
Northwest Missouri Medical Society—second Tuesday of each month.
Ozarks Medical Society (Barry-Lawrence-Stone-Christian-Taney-Newton-McDonald)—second Tuesday of each month, September through June.
Pemiscot County Medical Society—third Thursday of each month.
Perry County Medical Society—second Thursday of each month.
Pettis County Medical Society—third Monday of each month, September through May.
Pike County Medical Society—third Tuesday of each month.
Platte County Medical Society—meets only on call.
St. Louis County Medical Society—second Wednesday of each month, September through May.
St. Louis Medical Society—third Tuesday of each month, October through May.
Semo County Medical Society (Stoddard, New Madrid, Mississippi, Scott)—third Wednesday of each month, September through May.
South Central Counties Medical Society (Howell-Oregon-Texas-Wright-Douglas-Ozark)—fourth Wednesday of each month.
Webster County Medical Society—meets only on call.
West Central Missouri Society (Bates-Cass-St. Clair-Vernon-Cedar)—second Thursday of each month.

President's Message

Recently, the medical profession has been attacked nationwide because of so-called "unreasonable escalation" of physicians' fees. Also, the financial ills encountered by the government health programs are being laid at our feet. Since both are manifestly unfair, they command our careful analysis and attention.

In Missouri, these attacks have been met quickly and in a dignified manner by Dr. Max Franklin, President of the St. Louis Medical Society; Dr. Melvin Schwartz, President-Elect of the St. Louis County Medical Society; Dr. David Kerr, President-Elect of the MSMA; Dr. A. W. Neilson, AMA delegate; Dr. Robert W. Forsythe, President of the Jackson County Medical Society and by me through releases given in response to requests from the press or because we simply could not allow such statements to go unchallenged. Within 12 hours after George Meany's attack on the profession was released in the national press, the AMA countered with a comprehensive statement by Milford O. Rouse, our AMA President. In spite of the controversial nature of the issues, the press did not see fit to adequately present our side of the issues in a clear and honest light.

The issue of fees is continuing and likely to become more disturbing. I would like to direct your attention to what you can do to counter such unfair charges against our profession.

As physicians, it is our responsibility to make clear to our patients and the public that the 6.7% rise in fees in the past year is not unreasonable in view of the rapidly spiraling inflation of the last several years.

With increasing expansion of government's role in providing health care, we can expect the lay public to search for valid reasons for increasing health care costs—a public that is better informed on health matters than ever before. Our responsibilities are vital and of a complicated nature in this area. We are the sole source of good health care and everyone (physicians, public and government) must recognize this. We must provide the best health care available to all patients regardless of who is paying the bill. This is as it should be. It must be pointed out emphatically, however, that the actual costs of providing this health care are constantly increasing both in the physician's office and in the hospitals. Rents are higher. Supplies and equipment cost more. More personnel is needed for the government programs. Nurses and office personnel need higher salaries. Hence, the need to increase fees to meet these necessary costs.

Hector W. Benoit, Jr., M.D.

But, let us be realistic and realize that as health care costs paid by the government increase, so will our taxes increase, and it is our tax money that helps to provide these health services for the people now under governmental programs. We must keep costs as low as possible.

Regarding individual physician's fees, I ask each of you to honestly determine if a fee increase on your part is warranted. If it is, make it a reasonable and justified increase; then explain it to your patients. This is best done by the individual physician dealing with his patient. Beyond this, each physician must stand up and explain publicly why physicians' services are costing more. No apology is required for a fee increase commensurate with the increased cost of practicing medicine and the increased cost of living. Point out that the 1939 dollar, for instance, is now estimated to be worth only 39 cents in 1967. The 6.7% escalation in physicians' fees does not even approach compensation for this devaluation of the dollar.

Let me emphasize that it is our responsibility to see that our patients receive quality health care at reasonable cost regardless of who pays for it. We have a responsibility to ourselves to see that our services are adequately rewarded. And, as citizens of this country, we have a responsibility to our government to see that the costs of the health programs being provided for such a large segment of people are kept within reason.

I regret the rather sombre note of this message, the last for 1967. On behalf of the officers and Council of the Missouri State Medical Association, I extend to you and yours sincere best wishes for a joyous holiday season and a happy 1968. The New Year will be one of great challenge to the medical profession in Missouri and the United States. How this challenge is met will have a far-reaching effect upon the health and welfare of the people of this country in years to come. Of this, I am firmly convinced.

DORSEY "FLU-GRAM"

DON'T BE LULLED BY RELATIVE LACK OF FLU LAST WINTER. THIS WINTER BE PREPARED: WHEN THE COMPLAINTS ARE COUGH AND CONGESTION, YOU CAN RELIEVE THESE SYMPTOMS WITH TUSSAGESIC TABLETS. ONE TIMED-RELEASE TABLET AT MORNING, MIDAFTERNOON AND BEDTIME BRINGS UP TO 24 HOURS' RELIEF FROM TROUBLESOME COUGH AND STUFFED AND RUNNY NOSE. TUSSAGESIC IS THE FAMOUS TRIAMINIC FORMULA, PLUS THREE OTHER PROVED CONSTITUENTS. MAKES PATIENTS MORE COMFORTABLE. FAST. ASK YOUR DORSEY REPRESENTATIVE FOR SUPPLY OF STARTER SAMPLES, OR IF FLU IS ALREADY EPIDEMIC, PHONE COLLECT. SEE BELOW.

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Dosage: Adults—1 tablet, swallowed whole to preserve timed-release feature, in morning, midafternoon and at bedtime. Side effects: Occasional drowsiness, blurred vision, cardiac palpitations, flushing, dizziness, nervousness or gastrointestinal upsets. Precautions: The patient should be advised not to drive a car or operate dangerous machinery if drowsiness occurs. Use with caution in patients with hypertension, heart disease, diabetes or thyrotoxicosis.

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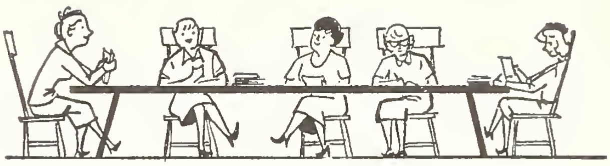
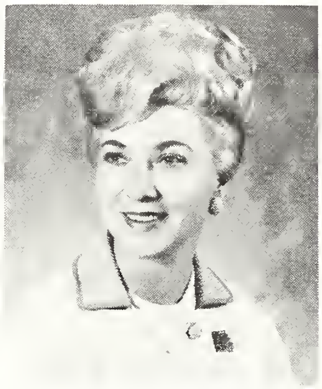


As I write this message for December, I am still filled with excitement and pride for our Auxiliary members in the way they arranged, attended and responded to the Fall Conference held in Columbia.

I feel that much of what I would want to find under our Auxiliary Christmas Tree has already been wrapped and placed there for all of us to see, enjoy and anticipate throughout the joyous Christmas Season. There is a brilliant green package wrapped with a handsome red velvet bow that I know must hold membership because the colors give off a feeling of stability and cool, flowing continuity. I am grateful as I look at it, but also wish that this box were twice as big. A sparkling gold gift leans gently against the green one—this has to be the wrapping for the interest and enthusiasm of your wives. A beautiful red package glowingly hints that it is filled with the giving of all our hearts and time in the many services the Auxiliary contributes. A glistening silver box gleams with the possibility of containing an ever-increasing role for the Auxiliary to fulfill in assisting the MSMA in its goals.



Mrs. John M. Williams

These and many more lovely gifts are ours to count and treasure. As the meaningful days of our Christmastime grow ever closer to surround us with the excitement of tinsel and bells, holly and pine, the aroma of fruit cakes and cookies, log fires and the hint of snow filling the air, may we all feel the gentleness and the awareness of why we come to this time of the year and of our place in the world. As we celebrate the birth of the Christ Child in the ways we hold dear to our own, let us not forget we have so much to give and so very little time in which to give it.

MY VERY BEST WISHES FOR A MERRY CHRISTMAS TO EACH AND EVERY ONE OF YOU!!!

Plan Now to Attend!

The 110th Annual Session
MISSOURI STATE MEDICAL ASSOCIATION

March 28-31, 1968

MUEHLEBACH HOTEL, KANSAS CITY

An outstanding program will provide you with current and valuable information in the fields of . . .

- CLINICAL MEDICINE
- HEALTH LEGISLATION
- SOCIO-ECONOMIC AFFAIRS

Mark your calendar now—and plan to be in Kansas City March 28-31 (Thursday-Sunday), 1968

p.s. ***Bring your wife along. She'll enjoy the Woman's Auxiliary convention.***

EDITORIALS

A MEMORIAL

Dr. John J. Modlin, 52, of Columbia, died June 19, 1967, after an illness of about one month.

Doctor Modlin was one of the states' leading cancer specialists, having served as chairman of the State Cancer Commission and as chairman of the department of surgery at the University of Missouri School of Medicine. He had been in private practice since his resignation from the University on January 1, 1964.

Doctor Modlin was born on Sept. 10, 1914, in Beaver City, Nebraska. He received both his B.Sc. and M.D. degrees from the University of Nebraska. He served his internship in surgery at Montreal General Hospital, Montreal, Canada, and was an assistant in surgery at the hospital in 1939-1940.

Dr. John J. Modlin

He then took advanced surgical training at Barnes Hospital in St. Louis and was a member of the Washington University Hospital Unit, 21st General Hospital, from 1942 through 1945. He returned to Barnes Hospital after World War II where he was a Rockefeller Fellow in surgery and then became chief resident in surgery in 1946.

He moved to Columbia that year to become chief surgeon at the Ellis Fischel State Cancer Hospital, a position he filled until 1952. He then entered private practice in Columbia and was on the clinical staff of the School of Medicine at the University.

He was named chairman of the State Cancer Commission in 1958 and chairman of the department of surgery at the University in January, 1961. He also served as treasurer of the Board of Directors of the Cancer Research Center from its inception in 1962.

Doctor Modlin was a diplomate of the American Board of Surgery and a fellow of the American College of Surgeons. He served as one of the three governors of the College in Missouri. He was a member of the Boone County Medical Society, the Missouri Methodist Church and the Columbia Rotary Club.

He was married to the former Ann Elizabeth Bloomer on December 24, 1943, in Naples. His wife, Ann, and daughter, Susan, reside at his home in Columbia. His son, John F. Modlin, graduated from Duke University in June shortly before Dr. Modlin's death.

Doctor Modlin was a man of firm and constructive convictions who made many contributions to Missouri medicine. His final contribution, "Long Term Survival in Carcinoma of the Liver: A Case Report," appears on page 985 in this issue of MISSOURI MEDICINE.

JOHN J. SPRATT, JR., M.D., Chief of Staff
Ellis Fischel State Cancer Hospital

FUTURE PHYSICIANS OF AMERICA

Medicine is a great profession.

Most of us believe this and, when we hear a young man or woman express an interest in medicine as a profession, will encourage the person to pursue it further. Unfortunately, a few physicians will discourage this interest.

Recently, a high school boy, who was working part time as a hospital orderly and loved his job, told me that he was interested in becoming a doctor. When I enthusiastically urged him to continue this interest, he said I didn't sound like two other doctors with whom he had talked. These doctors in his hospital had told him, "Stay out of medicine. It's too hard a life."

What successful professional man, be he lawyer, educator, businessman or whatever, has an easy life? Your life work is difficult only if you lack enthusiasm for it.

The many varied rewards for a physician are so great that they far outweigh the negative aspects.

In the next decade, the shortage of physicians will become a national crisis. The doctor who goes around discouraging future physicians now will *really* have a hard life then.

GORDON C. SAUER, M.D., Editor
Greater Kansas City Medical Bulletin

COMMENT . . .

Our Readers Write

Recently, Mr. Edgar J. Mothershead, executive secretary of the St. Louis County Medical Society, received an award for a question he submitted to Dr. Mortimer J. Adler. Two news items from the St. Louis Globe-Democrat *concerning the award were submitted to* Missouri Medicine *by the St. Louis County Medical Society. Since, in a certain sense, they can be considered as a letter to this journal, they are included in this section.*

The first article, published on Oct. 6, 1967, explains the award and the question submitted to Dr. Adler by Mr. Mothershead. The second article, published on Oct. 7-8, 1967, contains the specific question and Dr. Adler's answer. Both articles are reprinted by special permission of the St. Louis Globe-Democrat.—*The Editors*

E. J. Mothershead to Get Books For Question to Adler

Edgar J. Mothershead, 1 Cherri Lane, Creve Coeur, has been awarded a 54-volume set of the Britannica Great Books of the Western World for his question on abortions to Dr. Mortimer Adler.

Mr. Mothershead, executive secretary of the County Medical Society, publisher of *The Bulletin,* voice of the society, and president of Western Press Co., asked what opinions have been expressed by the great thinkers of our time on the subject of abortions.

Dr. Adler's answer will be printed in the weekend *Globe-Democrat.*

In an editorial appearing in the *Bulletin,* the publication said that the matter of abortions is not theological, legal or political. It is strictly a medical decision and the right of decision belongs to the doctor and the person who is pregnant

The editorial was reprinted in part in *The Globe-Democrat* of Oct. 27, 1966.

According to Mr. Mothershead, the society did not officially endorse the editorial, but there has been no dissent among its members.

—*St. Louis Globe-Democrat*
Oct. 6, 1967

Changing Views on Abortion

Dr. Mortimer J. Adler is one of the great original thinkers of the 20th Century. His articles are designed to apply the accumulated knowledge of 3,000 years to the problems of mankind today.

By Mortimer J. Adler

Dear Dr. Adler:

The legalization of abortion is one of the most controversial issues today. Some people call abortion "murder" while others call it "mercy." What opinions have been expressed by the great thinkers on this subject?

Mr. Edgar J. Mothershead
Clayton, Mo.

Dear Mr. Mothershead:

First, let us briefly examine what the great writers tell us about the general subject of abortion and its relation to homicide. Their views, in some instances, are sharply opposed to contemporary attitudes. Both Plato and Aristotle, for example, urged that abortion, in the ideal state, should be permitted or even required. This policy would insure, they believed, that the quality of the race would be improved by the elimination of the deformed or otherwise unhealthy, as well as by freeing the state of the burden of caring for "excess" children.

Aristotle, after advocating "a law that no deformed child shall live," provided the groundwork for a major point of view in the abortion controversy when he said: "Let abortion be procured before sense and life have begun; what may or may not lawfully be done in these cases depends upon the question of life and sensation." The issue that is pivotal in most contemporary discussions of abortion—the degree of life in the embryo—was thus articulated by Aristotle more than 2,000 years ago.

The distinction between an animate and an inanimate embryo was, in Aristotle's view, based upon movement. An embryo was to be classified as animate only when movement was detected, this generally being about 40 days after conception in the case of a male child, and 90 days in the case of a female child. Before that occurred, he considered the embryo merely "a fleshlike substance without distinction of parts."

Augustine incorporated Aristotle's distinction into his own position, and employed it to evaluate the different degrees of criminality in cases of abortion. Starting with the assumption that "the body is created before the soul," he argued that the destruction of the embryo "before it is endowed with a soul" merited a slight punishment, such as a fine. However, Augustine said, after the embryo was endowed with a soul, "it is an animate being; its destruction is murder, and is to be punished with death."

Present-day discussion tends to focus the abortion controversy on the question of the rights of the mother versus the rights of the unborn child. Many traditional theologians still maintain that abortion should be considered murder, even in the extreme case in which such procedures are necessary to save the life of the mother. Proponents of the opposite view argue that the rights of the mother are paramount. They urge that abortion is justified when the physical or mental well-being of the mother is in jeopardy, or when pregnancy is a result of rape; or, more liberally, when there are good grounds for believing that the child may be born deformed, as in the thalidomide cases.

Recent legislation in Colorado, and in a few other states, does seem to indicate a trend toward the liberalization of abortion laws. This trend reflects the growing belief that the rights of the mother take precedence over those of the unborn child. Advocates of this view argue that there is something wrong with a law that is so widely violated by otherwise law-abiding individuals. It is estimated that there are approximately 600,000 illegal abortions performed in this country every year.

—St. Louis Globe-Democrat
Oct. 7-8, 1967

ACCIDENT AND HEALTH INSURANCE

The Missouri State Medical Association since 1943 has made available to its members a Special Disability Income Benefits Policy issued by our "Loyalty Group" Companies now a part of the America Fore-Loyalty Group Insurance Companies—the largest casualty-fire underwriting group in the world. The low cost at which the policy is offered is made possible through the purchasing power of the membership of your association as a whole.

Now, new plans offering long term income benefits as well as a special Major Hospital-Nurse Expense Plan have been added to the program. We suggest you who are already enrolled make sure your policy includes the maximum benefits. Those of you not enrolled, we suggest you do so today. Call or write:

Eggert-Carroll-Schroeder Agency, Inc.
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FIRST
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County Society News

FIRST DISTRICT

COUNCILOR
JOSEPH L. FISHER, M.D., ST. JOSEPH

Grand River Medical Society

The Grand River Medical Society and Auxiliary held their regular monthly dinner meeting in Chillicothe on October 12 with 38 members and guests in attendance.

Dr. Warren P. Sights, the principal speaker of the evening, discussed the "Missouri Regional Medical Program." This was a very timely and interesting discussion. We congratulate the directors of the Missouri program which has become the pilot project for the nation.

Dr. Joseph Fisher of St. Joseph discussed briefly Title XIX. Doctor Fisher is First District Councilor. Dr. Jack Edlund, Columbia, then discussed the shortage of blood at the University of Missouri Medical Center and how the local medical societies could help to alleviate this shortage.

The following officers for 1968 were elected: President, W. Lenard Fair, Chillicothe; First Vice-President, Jack L. Vinyard, Carrollton; Second Vice-President, B. D. Howell, Brookfield; Secretary-Treasurer, Windsor B. Atcheson, Princeton; Program Chairman, Albert D. Cross, Trenton.

The annual Christmas meeting will be held on December 14 in Chillicothe.

Albert D. Cross, M.D., *Secretary*

SIXTH DISTRICT

COUNCILOR
ROLLA B. WRAY, M.D., NEVADA

Layfayette-Ray County Medical Society

The Lafayette-Ray County Medical Society meeting was held on October 10 in Lexington with 19 members and their wives and two guests in attendance.

A short business meeting followed the dinner. It was announced that the program for November would present a speaker from the University of Missouri, Dr. Warren Sights.

Dr. William C. LaHue, President, then turned the meeting over to Theodore Ernst and Mrs. Virginia Southwood. They explained a pilot program now being planned which would place

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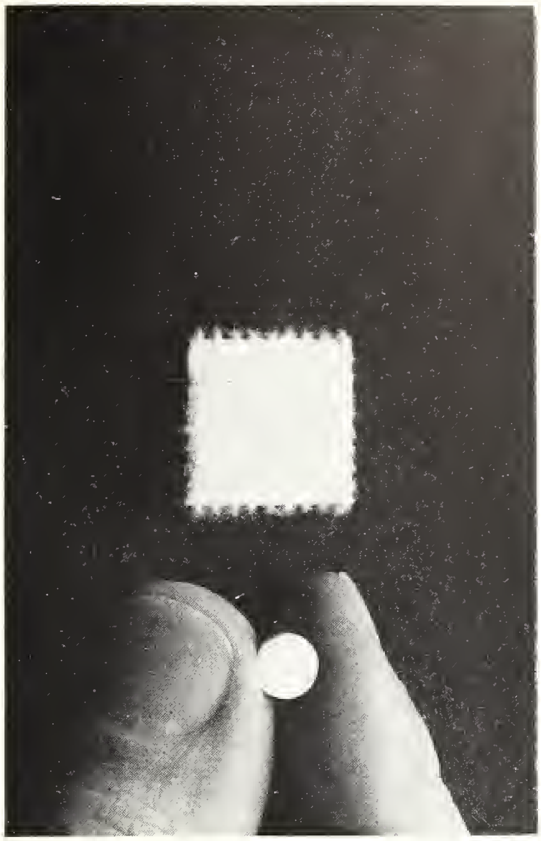

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social workers in various doctors' offices on a part-time basis for a period of six months to determine if they might assist the physician in handling some of the social problems in the community. If the program is successful and is considered adequate, it would then be set up on a full-time schedule and on a permanent basis. At the present time, apparently, the program would be managed directly and indirectly by Mr. Ernst from a central office in Kansas City, and directly by Mrs. Southwood who would actually participate in and supervise the social work in the doctors' offices.

A discussion followed explanation of the program, but no decision was made concerning acceptance of the program on a trial basis at this time. Mr. Ernst and Mrs. Southwood indicated that they would contact the medical society in the near future for further planning, in the event the program is acceptable to the Society.

WAYNE BOYDSTON, M.D., *Secretary*

WEST CENTRAL MISSOURI MEDICAL SOCIETY

The West Central Missouri Medical Society met in regular session in Butler on October 12. The scientific and business meeting followed a social hour and dinner.

The meeting was called to order by Dr. Alfred W. Eklund, President. He introduced the speakers for the evening, Dr. Charles S. Cooper and Gregory L. Pucci of Kansas City. They discussed the "Cervical Spine Syndrome" from the standpoint of the internist and the neurosurgeon. This was a very interesting and instructive presentation covering the essential points in diagnosis, differential diagnosis and treatment of this very common syndrome.

Following the scientific program, the business meeting was held. Minutes of the previous meeting were read and approved. The President made an announcement concerning the death of W. S. Love, M.D., Nevada, a recent Past-President of this organization. Recognition was made of the appointment of O. B. Barger, M.D., Harrisonville, to the newly-formed State Board of Health. The Secretary-Treasurer reported on the financial condition of the Society and on the correspondence received and acknowledged since the last meeting. Emphasis was placed on the proper handling of the contribution of individual members to the Missouri Political Action Committee.

The Secretary was instructed by unanimous vote of the Society to contribute $100 to the Missouri State Medical Foundation on behalf of the West Central Missouri Medical Society. After some discussion of other expenses to be incurred in the coming year, the Secretary was authorized to proceed with the purchase of projection equipment for the Society.

There being no other standing committee reports, the President called for the report of the nominating committee. The report of this committee's recommendations for officers for 1968 as submitted by Edward Jones, M.D., Chairman, was as follows: President, Rolla B. Wray, Nevada; Vice-President, William Haynie, Butler; Secretary-Treasurer, Roy W. Pearse, Jr., Nevada. Delegates and Alternates to MSMA: Bates County; Curtis Long, Butler, Delegate and Robert Strobach, Butler, Alternate. Cass County; Alfred Eklund, Pleasant Hill, Delegate and Robert Wheeler, Harrisonville, Alternate. Cedar County; Robert Magee, El Dorado Springs, Delegate and William Richter, Stockton, Alternate. St. Clair County; Donald Giesler, Osceola, Delegate and Robert Brownsberger, Appleton City, Alternate. Vernon County; James J. Pascoe, Nevada, Delegate and William Allen, Nevada, Alternate.

The President called for nominations from the floor. There were no nominations. On motion made by Doctor Hanson and seconded by Doctor Long, the report of the nominating committee was accepted and the Secretary was instructed to cast a unanimous ballot for the candidates listed in the report of the nominating committee.

There being no further business to come before the Society, it was announced that the next meeting would be in Harrisonville on November 9. The meeting was adjourned.

Roy W. Pearse, Jr., M.D., *Secretary*

NINTH DISTRICT

COUNCILOR
E. A. STRICKER, M.D., ST. JAMES

South Central Counties Medical Society

Dr. William F. Dreyer, Houston, has been elected President and Dr. Rollin H. Smith, West Plains, has been elected Secretary of the South Central Counties Medical Society.

Delegates and Alternates to MSMA are as follows: Oregon County; C. W. Cooper, Thayer, Delegate and A. T. Walker, Thayer, Alternate. Howell County; W. T. Morgan, Jr., West Plains, Delegate and Harold Miller, Willow Springs, Alternate. Texas County; Joe Wall, Houston, Delegate. Wright County; J. M. Hasek, Mountain Grove, Delegate and O. M. Hasek, Mountain Grove, Alternate. Douglas County; Marvin Gentry, Ava, Delegate.

Dr. Martin Hasek, Mountain Grove, was elected to membership in our Society.

Rollin H. Smith, M.D., *Secretary*

TENTH DISTRICT

COUNCILOR
W. D. ENGLISH, M.D., CARDWELL

Mineral Area County Medical Society

The Mineral Area Medical Society meeting was held in Farmington on October 19. Physicians present were Tom R. Burcham, Robert F. Dettmer, William Ford, Emmett F. Hoctor, Robert A. Huckstep, Alvan G. Karraker, Retus W. Osborn and Kirby L. Turner.

The minutes of the last meeting on September 28 were read and approved. Doctors Turner and Huckstep gave a very interesting report on "Cardiopulmonary Resuscitation Methods," which they illustrated with slides. The Doctors had attended the meeting held at the University of Missouri Medical Center on October 6-7. The information was timely and well received by the members.

The election of officers for 1968 was scheduled for this meeting. The motion that the present officers be re-elected for the coming year was seconded and approved.

The Society is planning a joint meeting with the Bar Association of this county in November. The program will be of a clinical-legal nature, rather than scientific.

The question of draft status of physicians in this area was discussed. It was moved, seconded and approved that the Secretary of the Society, upon official request and in regard to specific cases of draft-imminent physicians, write in the name of the Society to the proper authorities when the loss of a particular physician to the U.S. Services would hamper seriously the medical services in the area of his practice.

There being no further business, the meeting was adjourned.

William Ford, M.D., *Secretary*

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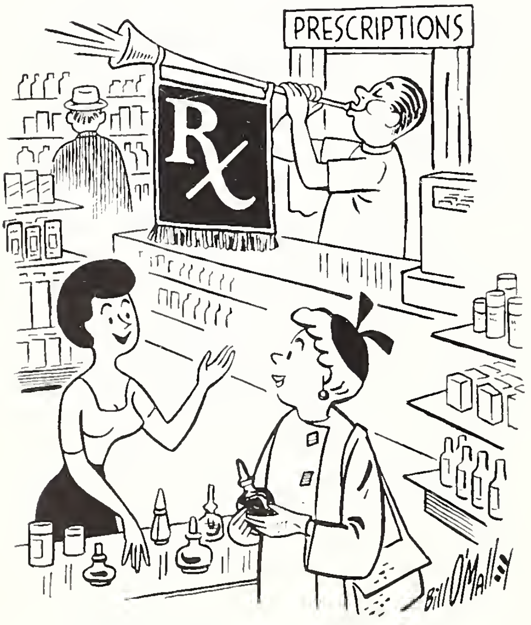
New Members

Luis B. Anglo, M.D., 4211 Bayless Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Anglo is a native of the Philippines, received his preliminary education at Arellano University and his M.D. degree at Manila Central University in 1956. He specializes in general practice and surgery.

Walter F. Ballinger, II, M.D., 4960 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Ballinger is a native of Philadelphia, Pa., received his preliminary education at Cornell University and his M.D. degree at the University of Pennsylvania in 1948. He specializes in general surgery.

Charles A. Burkhart, M.D., 1501 Locust St., St. Louis, has become a member of St. Louis Medical Society. Dr. Burkhart is a native of Youngstown, Ohio, received his preliminary education at Ohio State University and his M.D. degree at the Ohio State University in 1957. He specializes in insurance medicine.

Richard A. Carson, M.D., 615 South New Ballas Rd., St. Louis, has become a member of St. Louis Medical Society. Dr. Carson is a native of Britt, Iowa, received his preliminary education at the University of Iowa and his M.D. degree at the State University of Iowa in 1964. He specializes in anesthesiology.



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John P. Cox, M.D., 902 Edmond St., St. Joseph, has become a member of Buchanan County Medical Society. Dr. Cox is a native of Chicago, Ill., received his M.D. degree at the Stritch School of Medicine in 1953. He specializes in psychiatry.

David S. Glasgow, M.D., 10 Mississippi Ave., Crystal City, has become a member of Jefferson County Medical Society. Dr. Glasgow is a native of Crystal City, received his preliminary education at Central College and his M.D. degree at the National University of Mexico in 1964. He specializes in internal medicine.

James N. Heins, M.D., 4960 Audubon Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Heins is a native of Cleveland, Ohio, received his preliminary education at the University of Louisville and his M.D. degree at the University of Louisville in 1961. He specializes in internal medicine.

Cornelius E. Hogan, M.D., 1615 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Hogan is a native of Butte, Montana, received his preliminary education at Gonzaga University and his M.D. degree at St. Louis University in 1960. He specializes in internal medicine.

Sally L. Hubbard, M.D., 12 West 19th St., Higginsville, has become a member of Lafayette-Ray County Medical Society. Dr. Hubbard is a native of Marshall, received her preliminary education at Christian College and the University of Missouri and her M.D. degree at the University of Missouri in 1962. She is in general practice.

William G. Juergens, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Juergens is a native of East St. Louis, Ill., received his preliminary education at the University of Michigan and his M.D. degree at Washington University in 1961. He specializes in internal medicine.

Bartolome C. Kairuz, M.D., 4646 Lindell Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Kairuz is a native of the Philippines, received his preliminary education at Letran College and his M.D. degree at Santo Tomas University in 1957. He specializes in internal medicine and chest diseases.

Norton S. Kronemer, M.D., 6430 Hampton Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Kronemer is a native of Cleveland, Ohio, received his preliminary education at Washington University and his M.D. degree at the University of Missouri in 1962. He specializes in pediatrics.

Mary K. McCaffree, M.D., 510 Francis St., St. Joseph, has become a member of Buchanan County Medical Society. Dr. McCaffree is a native of Schell City, received her preliminary education at the University of Missouri and her M.D. degree at the University of Missouri in 1956. She specializes in internal medicine.

John C. McGiff, M.D., 1402 S. Grand Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. McGiff is a native of New York City, received his preliminary education at Georgetown University and his M.D. degree at Columbia University in 1951. He specializes in cardiology.

William B. Mill, Jr., M.D., 510 South Kingshighway, St. Louis, has become a member of St. Louis Medical Society. Dr. Mill is a native of St. Louis, received his preliminary education at Washington University and the University of Missouri and his M.D. degree at the University of Tennessee in 1962. He specializes in radiation therapy.

John W. Moranz, M.D., 3720 Washington Blvd., St. Louis, has become a member of St. Louis Medical Society. Dr. Moranz is a native of Pittsburgh, Pa., received his preliminary education at the University of Alabama and his M.D. degree at the Medical College of Alabama in 1962. He specializes in otolaryngology.

William J. Phillips, M.D., 114 North Taylor Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Phillips is a native of Enid, Okla., received his preliminary education at Oklahoma State University and his M.D. degree at Washington University in 1963. He specializes in internal medicine.

P. B. Salanga, M.D., 7430 Virginia Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Salanga is a native of the Philippines, received his preliminary education at U.S.T. College of Liberal Arts and his M.D. degree at the University of Santo Tomas in 1953. He is in general practice.

Isa A. Samad, M.D., 1420 Grattan St., St. Louis, has become a member of St. Louis Medical Society. Dr. Samad is a native of Patna, India, received his preliminery education at Patna University and his M.D. degree at Prince of Wales Medical College in 1946. He specializes in psychiatry.

Leonard Z. Shapiro, M.D., USAF Hospital, Scott AFB, Illinois, has become a member of St. Louis Medical Society. Dr. Shapiro is a native of Brooklyn, New York, received his preliminary education at Yeshiva College and his M.D. degree at Yeshiva University in 1962. He specializes in ophthalmology.

Robert H. Sueper, M.D., 100 N. Euclid Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Sueper is a native of Lindsay, Neb., received his preliminary education at Creighton College and his M.D. degree at Creighton University in 1959. He specializes in pathology.

Sherwyn J. Wayne, M.D., 135 West Adams Ave., St. Louis, has become a member of St. Louis Medical Society. Dr. Wayne is a native of Chicago, Ill., received his preliminary education at the University of Illinois and his M.D. degree at the University of Illinois in 1962. He specializes in orthopedics.

In Memoriam

Cummings, James H., M.D., St. Louis, a graduate of St. Louis University, 1919; member of St. Louis Medical Society; aged 71; died October 5, 1967.

Brookes, Henry S., Jr., M.D., St. Louis, a graduate of Washington University, 1917; member of St. Louis Medical Society; aged 74; died October 7, 1967.

Spelman, Archibald E., M.D., Smithville, a graduate of the University of Illinois, 1928; member of Clay County Medical Society; aged 66; died October 9, 1967.

Love, Walter S., M.D., Nevada, a graduate of Jefferson Medical College, 1921; member of West Central Missouri Medical Society; aged 70; died October 11, 1967.

Hunt, Claude J., M.D., Kansas City, a graduate of the University of Kansas, 1915; member of Jackson County Medical Society; aged 78; died October 23, 1967.

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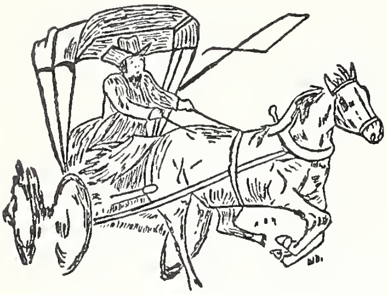
Missouri Medicine in Review



FORTY YEARS AGO

Dr. E. C. Ernst, St. Louis, was elected President-Elect of the American Radium Association. He previously had been elected President-Elect of the Radiological Society of North America.—Dr. E. H. Skinner, Kansas City, was elected Chairman of the Section on Radiology of the American Medical Association in May and President-Elect of the American Roentgen Ray Society at its meeting in Montreal in September.

The new building of the St. Louis Medical Society was officially dedicated to medical science on Nov. 1, 1927. Dr. C. A. Vosburgh, President, presided at the meeting. Addresses were given by Dr. McKim Marriott, Dean of the Washington University School of Medicine, and the Reverend Alphonse M. Schwitalla, Regent of the St. Louis University School of Medicine. Dr. Jabez N. Jackson, Kansas City, President of the AMA, and the Honorable Victor J. Miller, Mayor of St. Louis had been invited to deliver addresses at the meeting, but neither was able to attend. This is the second real home of the St. Louis Medical Society, the first one having been built in 1906. The building was made possible through the efforts of Dr. Alonzo R. Kieffer, who was treasurer of the Society for eight years. During that time, he saved a sufficient sum from the dues to encourage the Society to begin the construction of the auditorium on ground leased from the St. Louis Medical Library Association.

TWENTY-FIVE YEARS AGO

In all past wars, the records of the Surgeons General of the Army, Navy and Public Health Service have shown a rise in the incidence of venereal diseases in the Armed Forces and civilian population. Our country is starting this war with the lowest venereal rates ever recorded in both groups in the history of the United States. Yet, because the Army and Navy are growing to an unprecedented size, there will be an estimated 380,000 new cases of venereal diseases each year in the Armed Forces alone, even if the present low rate prevails. All cases of syphilis and gonorrhea among the Armed Forces have been and will be contributed by the civilian population with whom soldiers and sailors come into contact.

Dr. Evarts A. Graham, St. Louis, was given the St. Louis award which is presented annually to the St. Louisan credited with the most outstanding contribution to the community during the year.

The importance of the county society and the continuation of meetings of county societies during war time were stressed by Col. Fred W. Rankin, President of the AMA, in an address before the Annual Conference of Secretaries and Editors of the state medical associations in Chicago. Many national organizations of physicians and some state associations have cancelled their annual sessions during 1943 because of the difficulties of transportation and the considerable demand on the time of the physician. Colonel Rankin pointed out that these reasons do not prevail in regard to meetings of the societies.

TEN YEARS AGO

More than 750 persons attended the cornerstone laying of the Baptist Memorial Hospital at 6601 Rockhill Road, Kansas City. The ceremony signified the start of actual construction of a nine-story, 150-bed institution which is expandable to 286 beds without further exterior construction.

Wendell G. Scott, M.D., St. Louis, was installed as President of the American Roentgen Ray Society at a meeting in Washington, D. C.—Miss Catherine Rand, assistant in the office of Harold Unger, M.D., Kansas City, was elected Treasurer of the American Association of Medical Assistants at the convention in San Francisco.

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